



TITLE: ADENO-ASSOCIATED VIRUS VECTORS
INVENTOR NAME: John F. Engelhardt et al.
SERIAL NO.: 10/054,665

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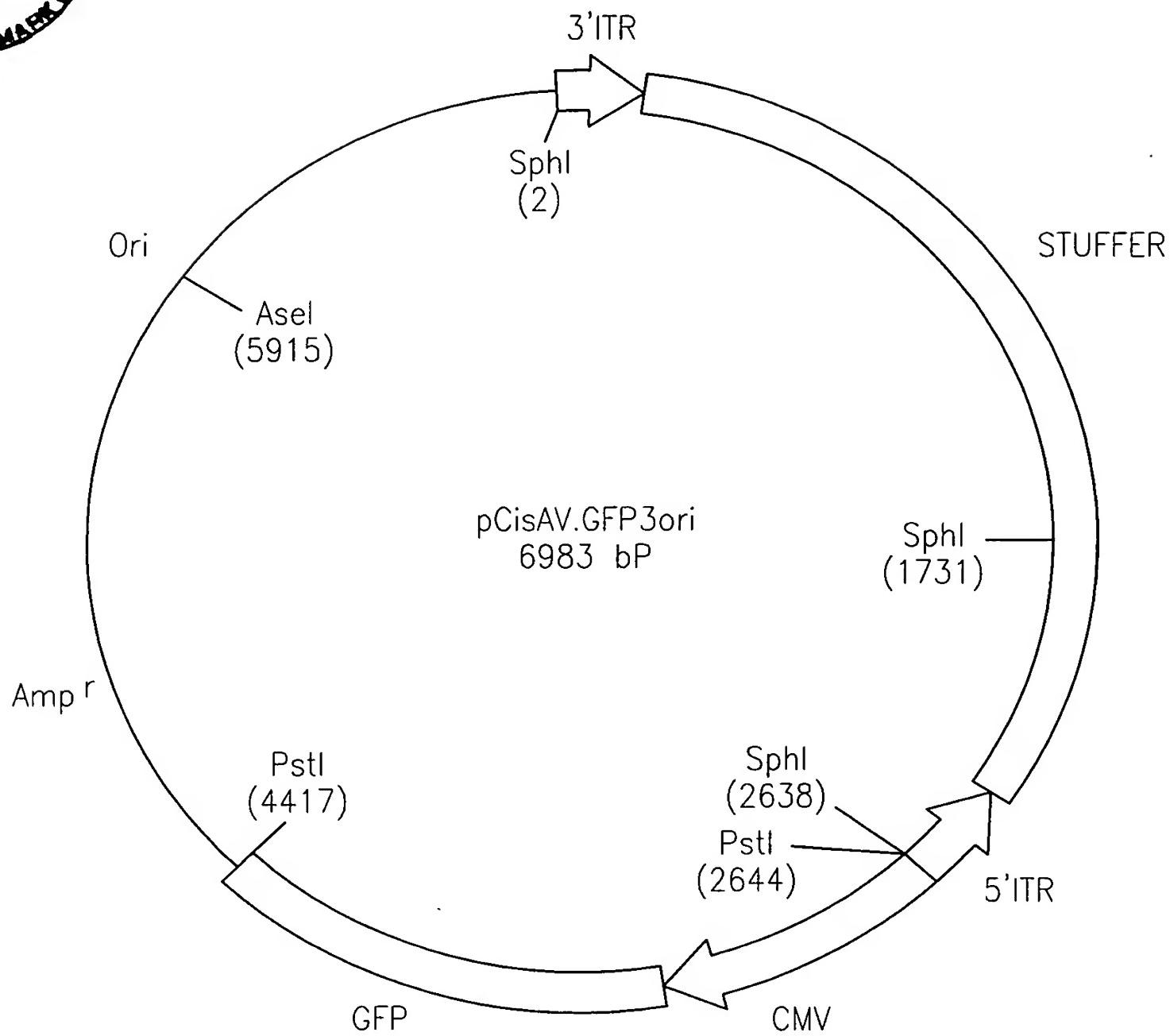


FIG. 1A

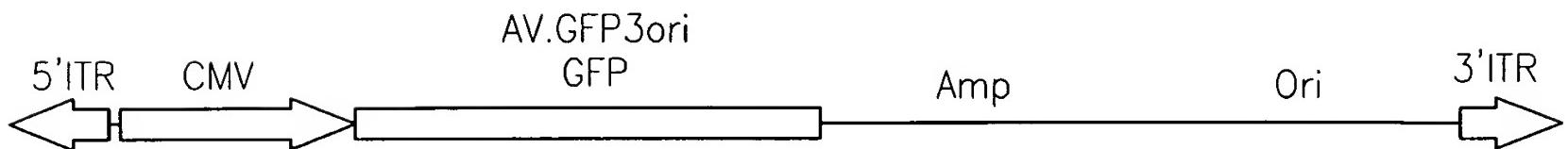


FIG. 1B

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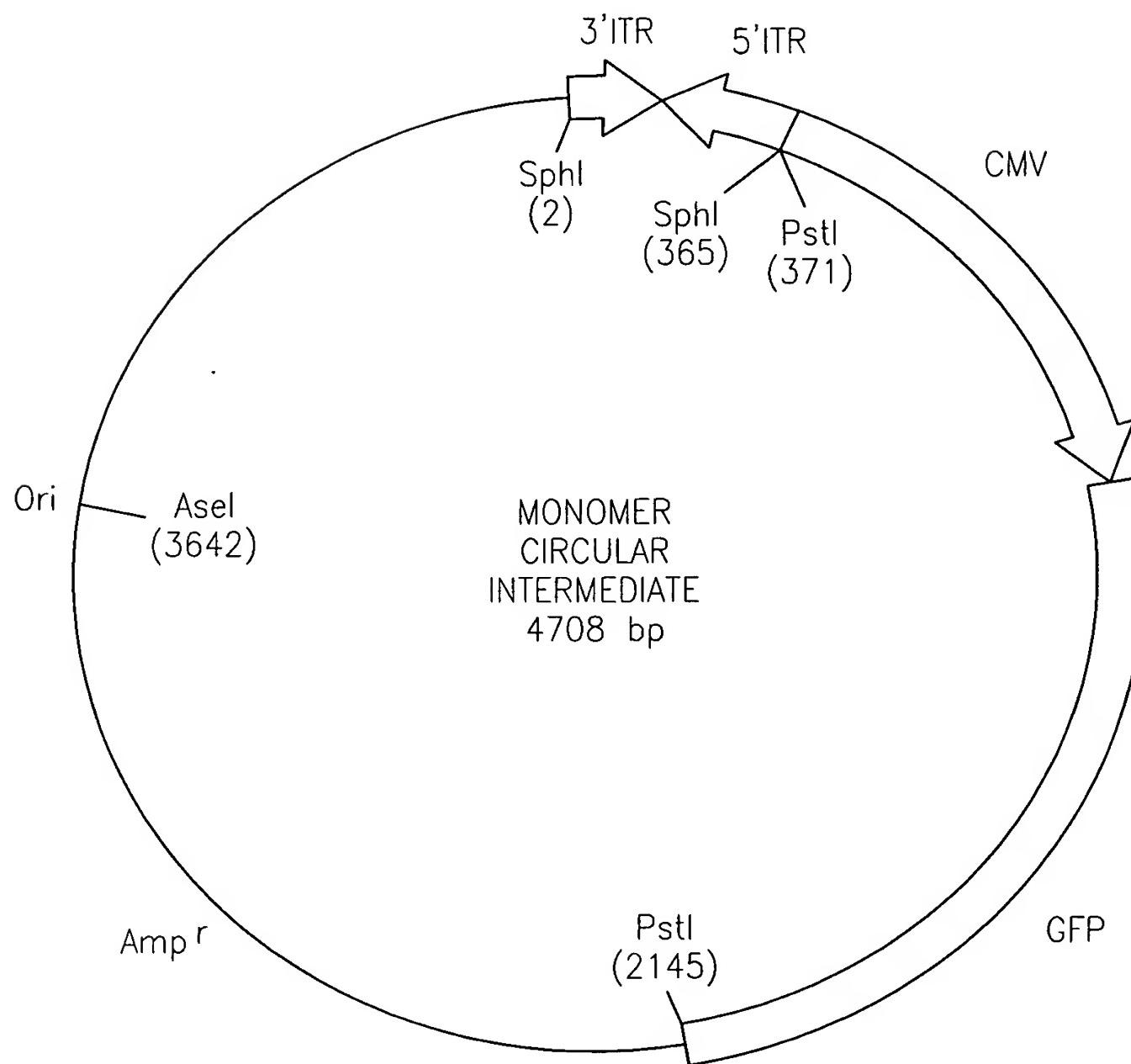


FIG. 1C

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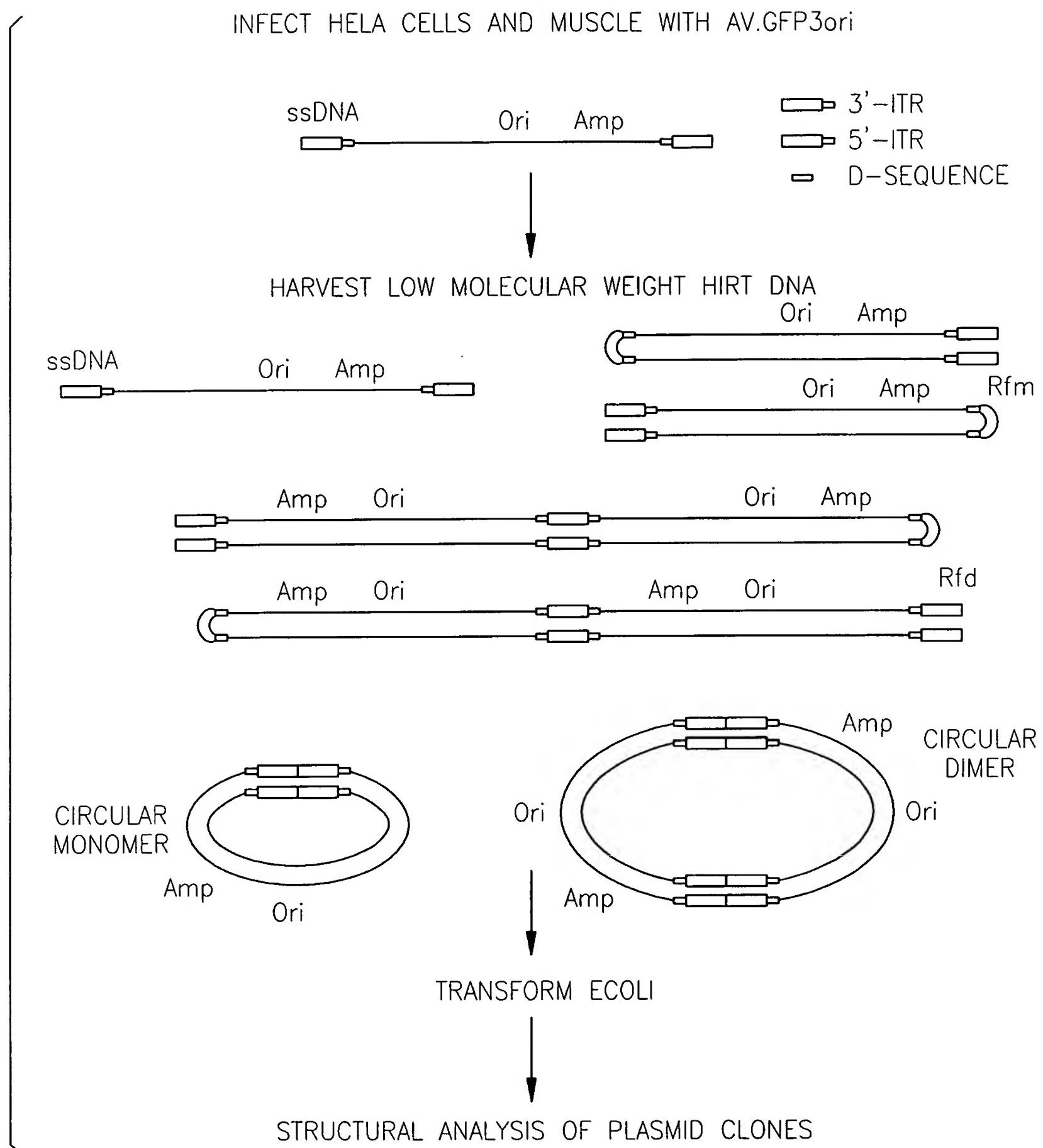


FIG. 1D

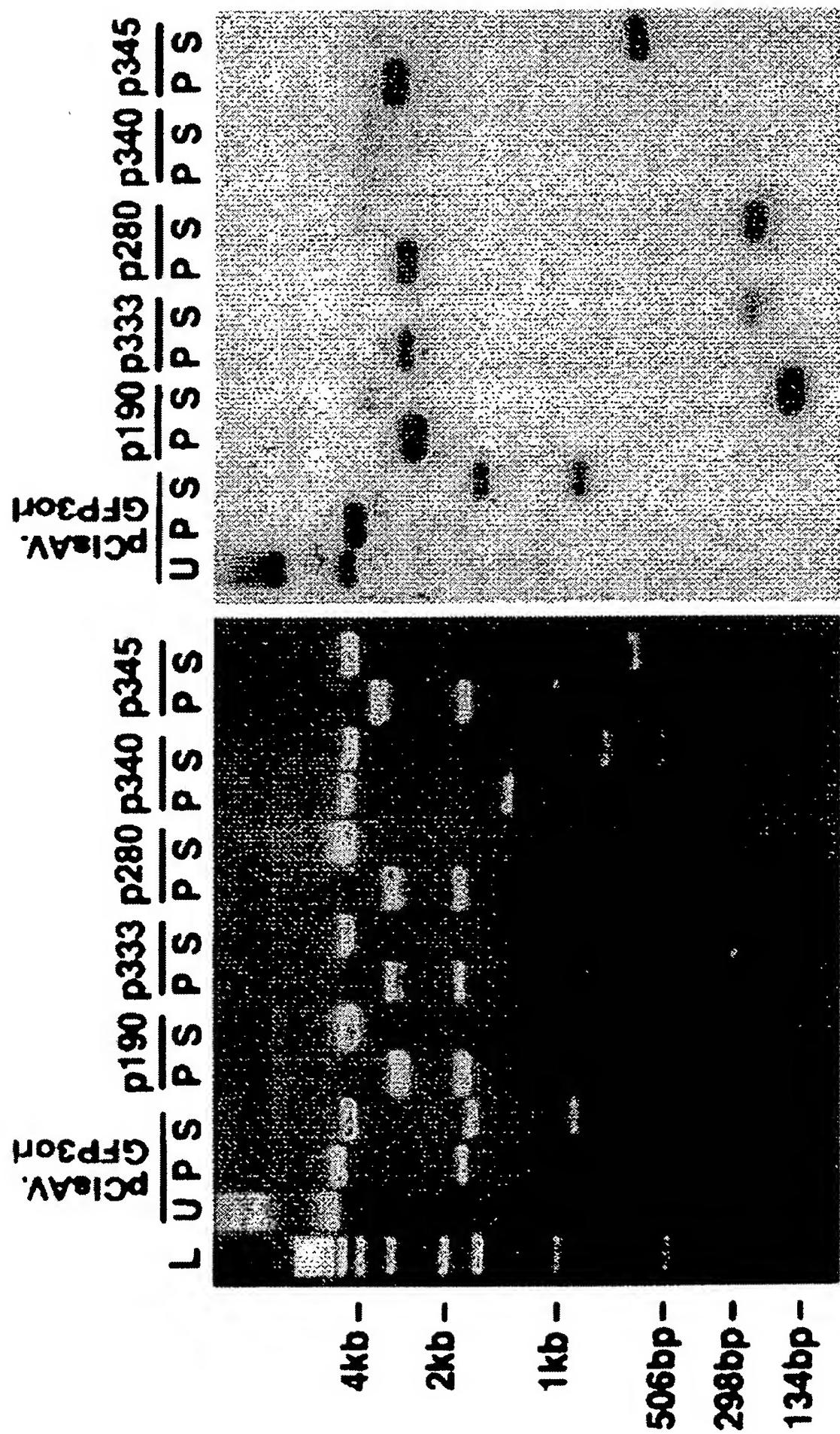


FIG. 2A

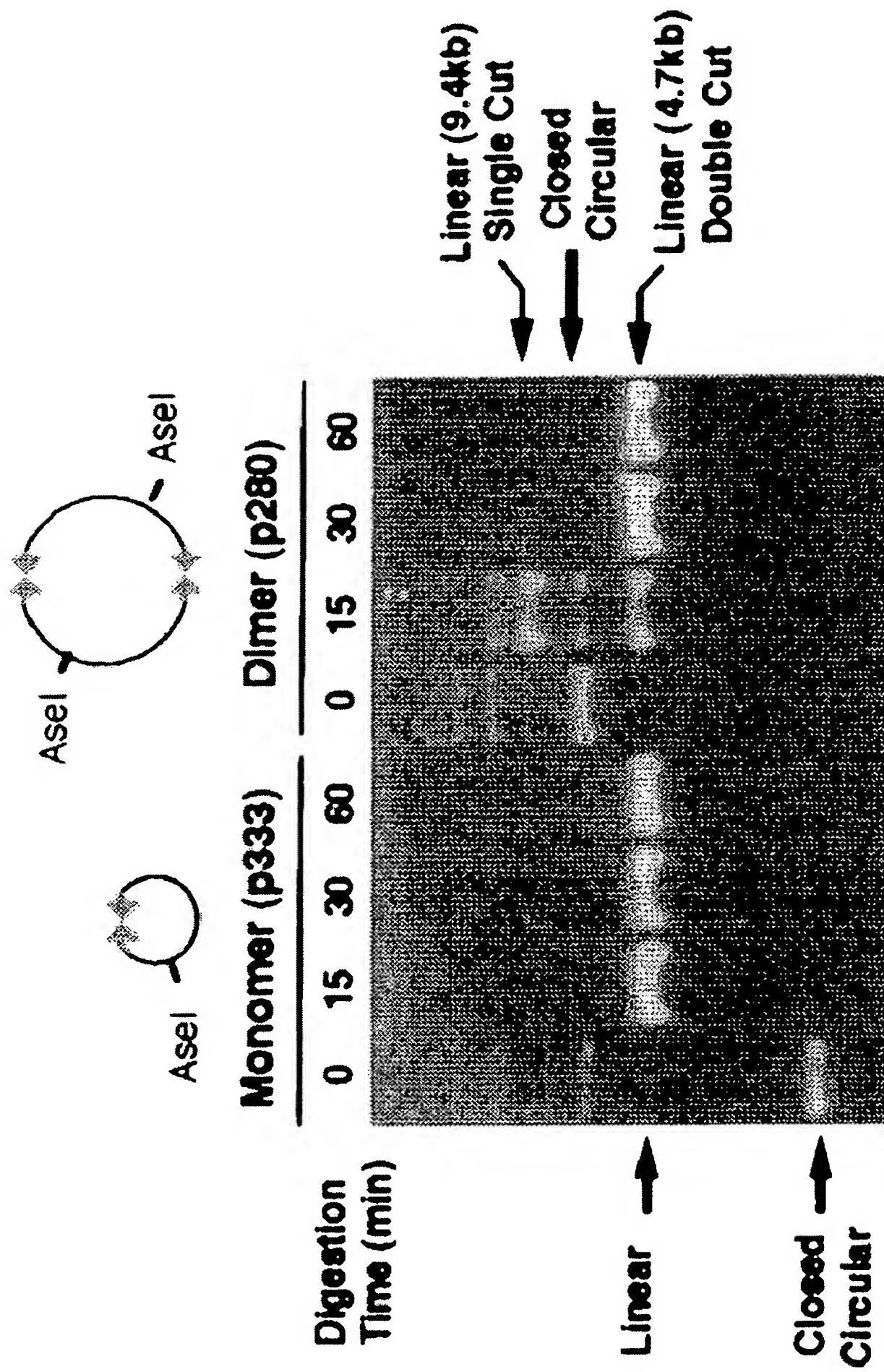


FIG. 2B

TITLE: ADENO-ASSOCIATED VIRUS VECTORS
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5 <->3	ITR	CGGGGGTCGT	TGGGGGTCA	GCCAGGGGG	CCATTACCG	TAAGTTATGT	AACGACTGCA	GGCATGCAAAG
p79	-	-	-	--GGCGGG	CCATTACCG	TAAGTTATGT	ggCGACTGCA	GGCATGCAAAG
P80	-	-	-	--GG	CCATTACCG	TAAGTTATGT	AACGACTGCA	GGCATGCAAAG
P81	-	-	-	--GG	CCATTACCG	TAAGTTATGT	ggCGACTGCA	GGCATGCAAAG
P86	-	-	-	--GG	CCATTACCG	TAAGTTATGT	99CGACTGCA	GGCATGCAAAG
P87	-	-	-	--GG	CCATTACCG	TAAGTTATGT	AACGACTGCA	GGCATGCAAAG
P88	-	-	-	--GG	CCATTACCG	TAAGTTATGT	AACGACTGCA	GGCATGCAAAG
5 <->3	ITR	CTCGAATTCA	TCGGTAGATA	AGTAGGCATGG	CGGGTTAAC	ATTAACCTACA	AGGAACCCCT	AGTGATGGAG
p79	ITR	CTCGAATTCA	TCGGTAGATA	AGTAGGCATGG	CGGGTTAAC	ATT9GCTAAC	AaGAGCCCCCT	AGTGATGGAG
P80	CTCGAATTCA	TCGGTAGATA	AGTAGGCATGG	CGGGTTAAC	ATTAACCTACA	AGGAACCCCT	AGTGATGGAG	
P81	CTCGAATTCA	TCGGTAGATA	AGTAGGCATGG	CGGGTTAAC	ATT9GCTAAC	AaGAGCCCCCT	AGTGATGGAG	
P86	CTCGAATTCA	TCGGTAGATA	AGTAGGCATGG	CGGGTTAAC	ATTAACCTACA	AGGAACCCCT	AGTGATGGAG	
P87	CTCGAATTCA	TCGGTAGATA	AGTAGGCATGG	CGGGTTAAC	ATT9GCTAAC	AaGAGCCCCCT	AGTGATGGAG	
P88	CTCGAATTCA	TCGGTAGATA	AGTAGGCATGG	CGGGTTAAC	ATT9GCTAAC	AaGAGCCCCCT	AGTGATGGAG	
5 <->3	ITR	TTGGCCACTC	CCTCTCTGCG	CTCGCTGAGG	CCGGGCGACC	AAAGGTGCGCC	CGACGCCCGG	210
p79	TTGGCCACTC	CCTCTCTTCG	C-----	-----	-----	-----	-----	
P80	TTGGCCACTC	CCTCTCTGCG	CTCGCTCG	CCGGGCAACC	AAAGGTGCGCC	CGACGCCCGG	CGACGCCCGG	
P81	-	-	-	-----	-----	-----	-----	
P86	TTGGCCACTC	CCTCTCTGCG	CGCTCGCTCG	CTCGCTGAGG	CCGGGCCC	CCGGGCCC	CCGGGCCC	
P87	TTGG-	-	-	-	-	-	-	
P88	TTGGCCACTC	CCTCTCTGCG	CTCGCTCG	CTCGCTGAGG	CTCGCTGAGG	CTCGCTGAGG	CTCGCTGAGG	

FIG. 2C

TITLE: ADENO-ASSOCIATED VIRUS VECTORS
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 SERIAL NO.: 10/054,665

5 <->3	ITR	220	230	240	250	260	270	280
	P79	GCTTTGCCG	GGGGCCTCA	GTGAGCGAGC	GAGCGCCAG	CTGGCGCTC	GCTGGCTCAC	TGAGGCCGCC
	P80	-	-	-	-	-	-	-
	P81	-	-	-	-	-	-	-
	P86	-	-	-	-	-	-	-
	P87	-	-	-	-	-	-	-
	P88	-	-	-	-	-	-	-
<hr/>								
5 <->3	ITR	290	300	310	320	330	340	350
	P79	CGGGCAAAGC	CGGGCGTCCG	GGCGACCTTT	GGTCGGCCGG	CCTCAGCGAG	CGAGCGAGCG	CGCAGAGAGG
	P80	-	-	-	-	-	-	-
	P81	-	-	-	-	-	-	-
	P86	-	-	-	-	-	-	-
	P87	-	-	-	-	-	-	-
	P88	-	-	-	-	-	-	-
<hr/>								
5 <->3	ITR	360	370	380	390	400	410	420
	P79	GAGTGGCAA	CTCCATCACT	AGGGGTTCCCT	TGTAGTTAAT	GATTAAACCG	CCATGCTACT	TATCTACAGC
	P80	GAGTGGCAA	CTCCCTCACT	AGGGGTTCCCT	9GCAGTTAAT	GATTAAACCG	CCATGCTACT	TATCTACAGC
	P81	GAGTGGCAA	CTCCATCACT	AGGGGTTCCCT	TGTAGTTAAT	GATTAAACCG	CCATGCTACT	TATCTACAGC
	P86	GACTGGCAA	CTCCATCACT	AGGGGTTCCCT	TGTAGTTAAT	GATTAAACCG	CCATGCTACT	TATCTACAGC
	P87	-	-	-	-	-	-	-
	P88	GAGTGGCAA	CTCCATCACT	AGGGGTTCCCT	9GCAGTTAAT	GATTAAACCG	CCATGCTACT	TATCTACAGC

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FIG. 2D

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5 <->3	ITR	TTGCATGCAT	GTGAGCAAA	GGCCAGCAA	AGGCCAGGAA	CCGTAAAAAG	GCCGCCTTGC	TGGCGTTTT	490
p79	TTGCATGCAT	GTGAGCAAA	GGCCAGCAA	AGGCCAGGAA	CCGTAAAAAG	GCCGCCTTGC-	-	-	480
P80	TTGCATGCAT	GTGAGCAAA	GGCCAGCAA	AGGCCAGGAA	CCGTAAAAAG	GCCGCCTTGC-	-	-	470
P81	TTGCATGCAT	GTGAGCAAA	GGCCAGCAA	AGGCCAGGAA	CCGTAAAAAG	GCCGCCTTGC-	-	-	460
P86	TTGCATGCAT	GTGAGCAAA	GGCCAGCAA	AGGCCAGGAA	CCGTAAAAAG	GCCGCCTTGC-	-	-	450
P87	TTGCATGCAT	GTGAGCAAA	GGCCAGCAA	AGGCCAGGAA	CCGTAAAAAG	GCCGCCTTGC-	-	-	440
P88	TTGCATGCAT	GTGAGCAAA	GGCCAGCAA	AGGCCAGGAA	CCGTAAAAAG	GCCGCCTTGC-	-	-	430
5 <->3	ITR	CCATAGGCTC	CGCCC	-	-	-	-	-	500
p79	-	-	-	-	-	-	-	-	505
P80	-	-	-	-	-	-	-	-	-
P81	-	-	-	-	-	-	-	-	-
P86	-	-	-	-	-	-	-	-	-
P87	-	-	-	-	-	-	-	-	-
P88	-	-	-	-	-	-	-	-	-

FIG. 2E

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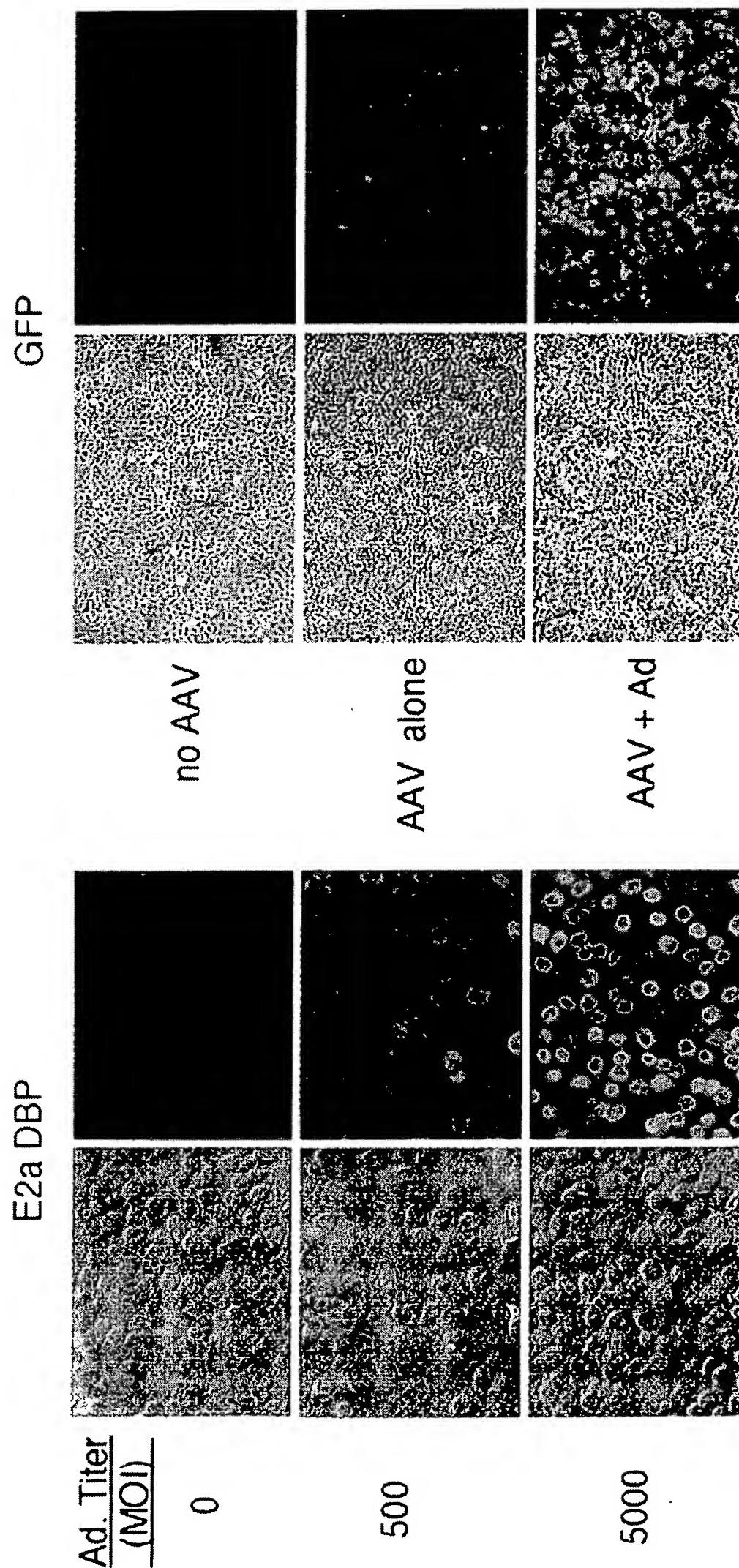


FIG. 3A FIG. 3B

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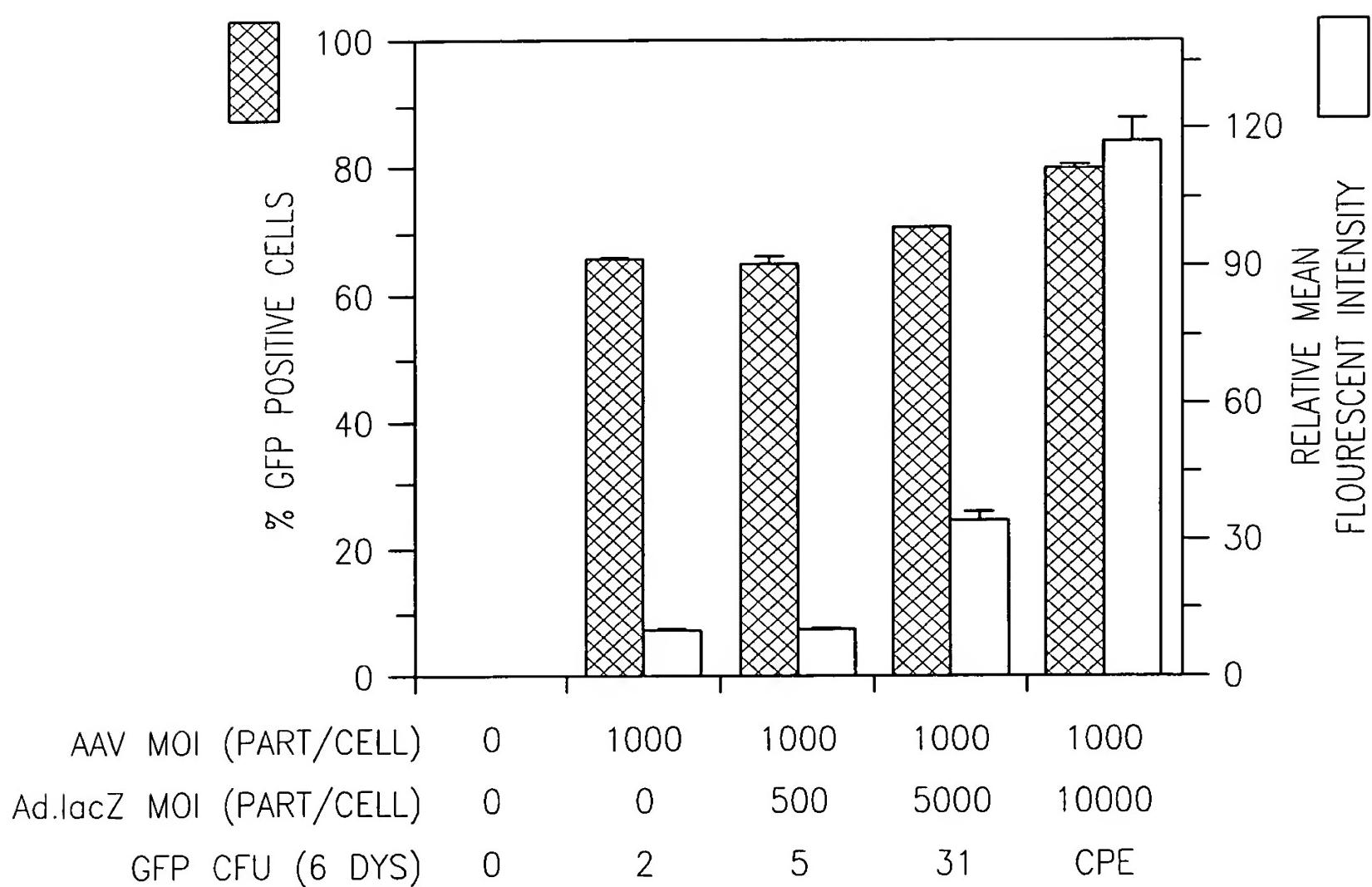


FIG. 3C

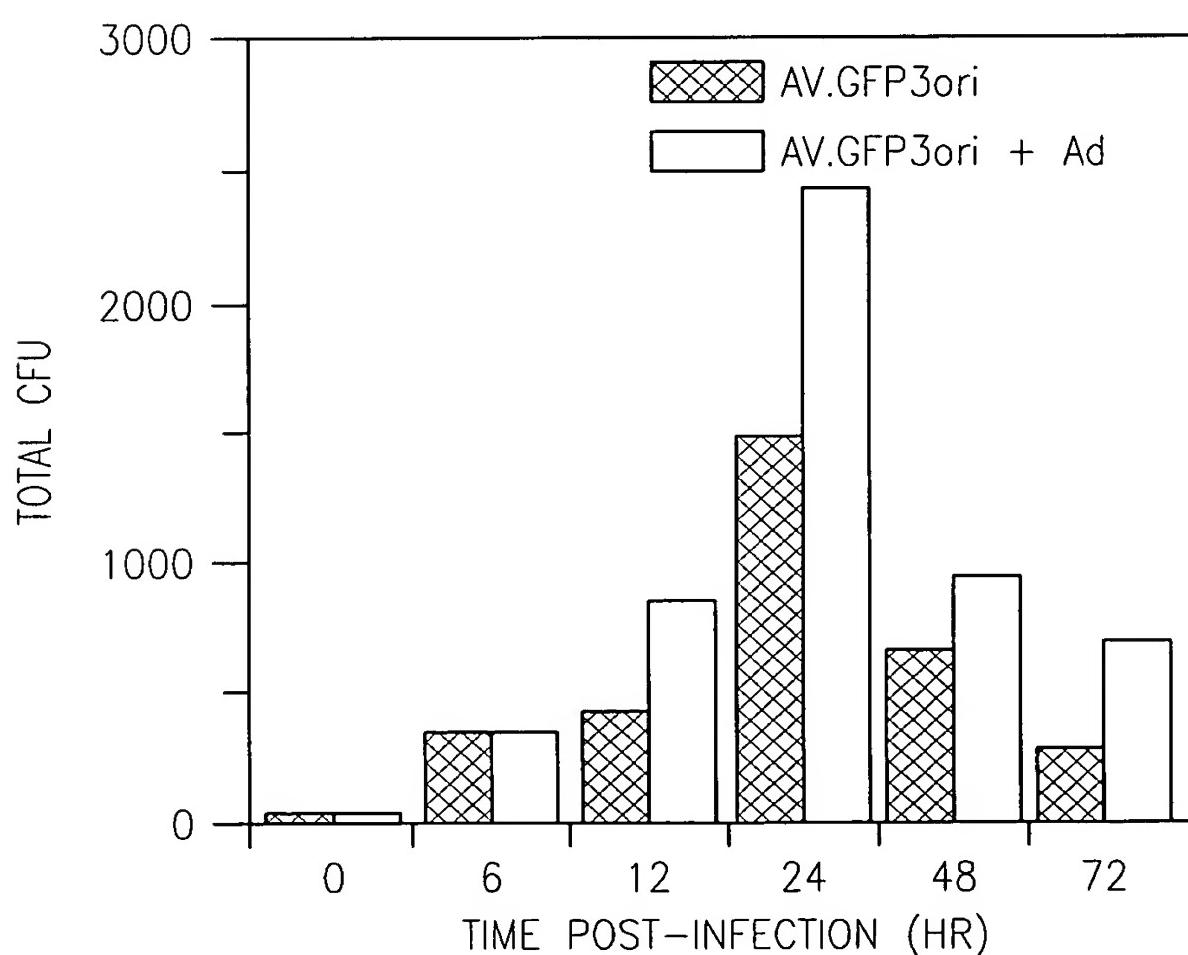


FIG. 3D

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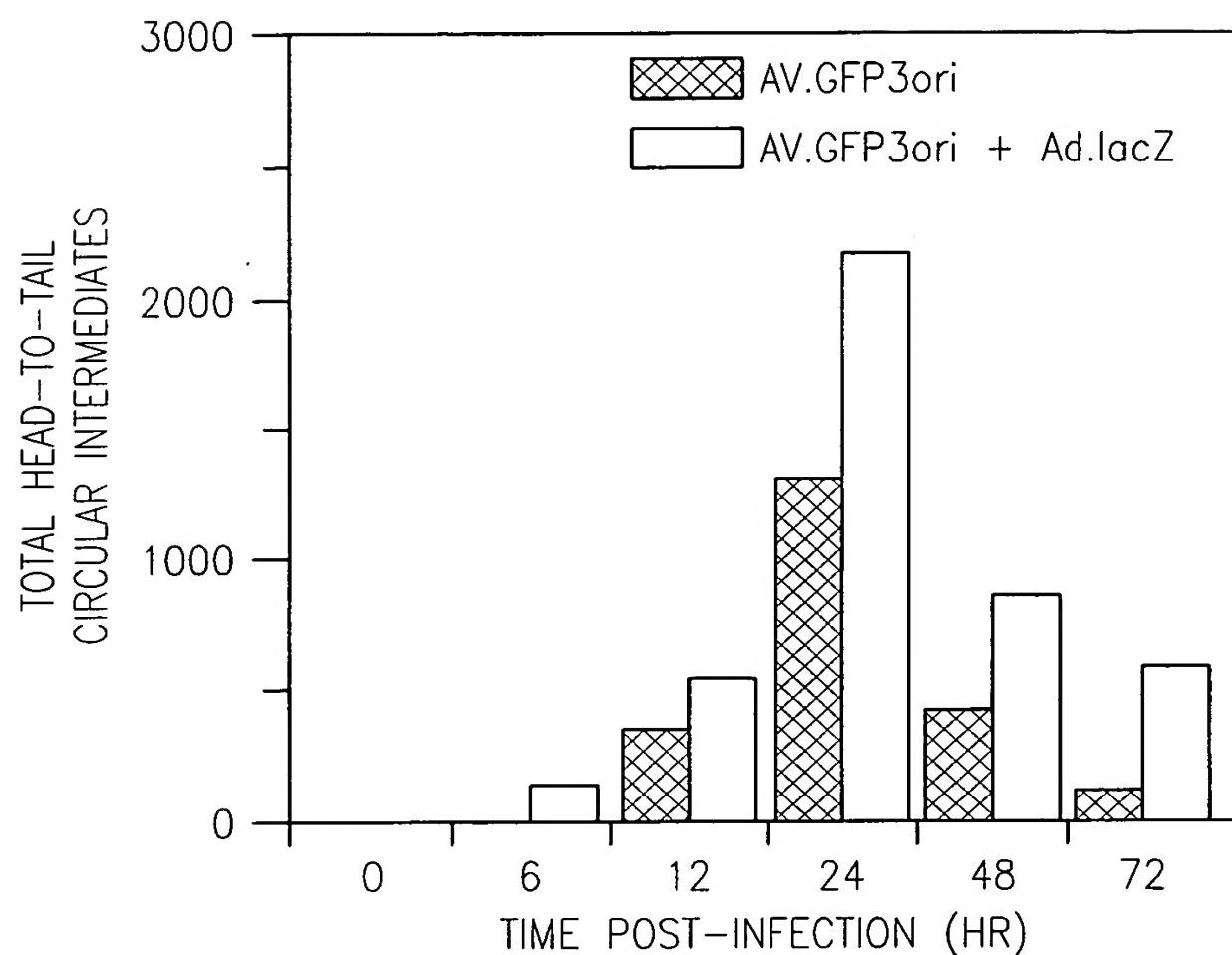


FIG. 3E

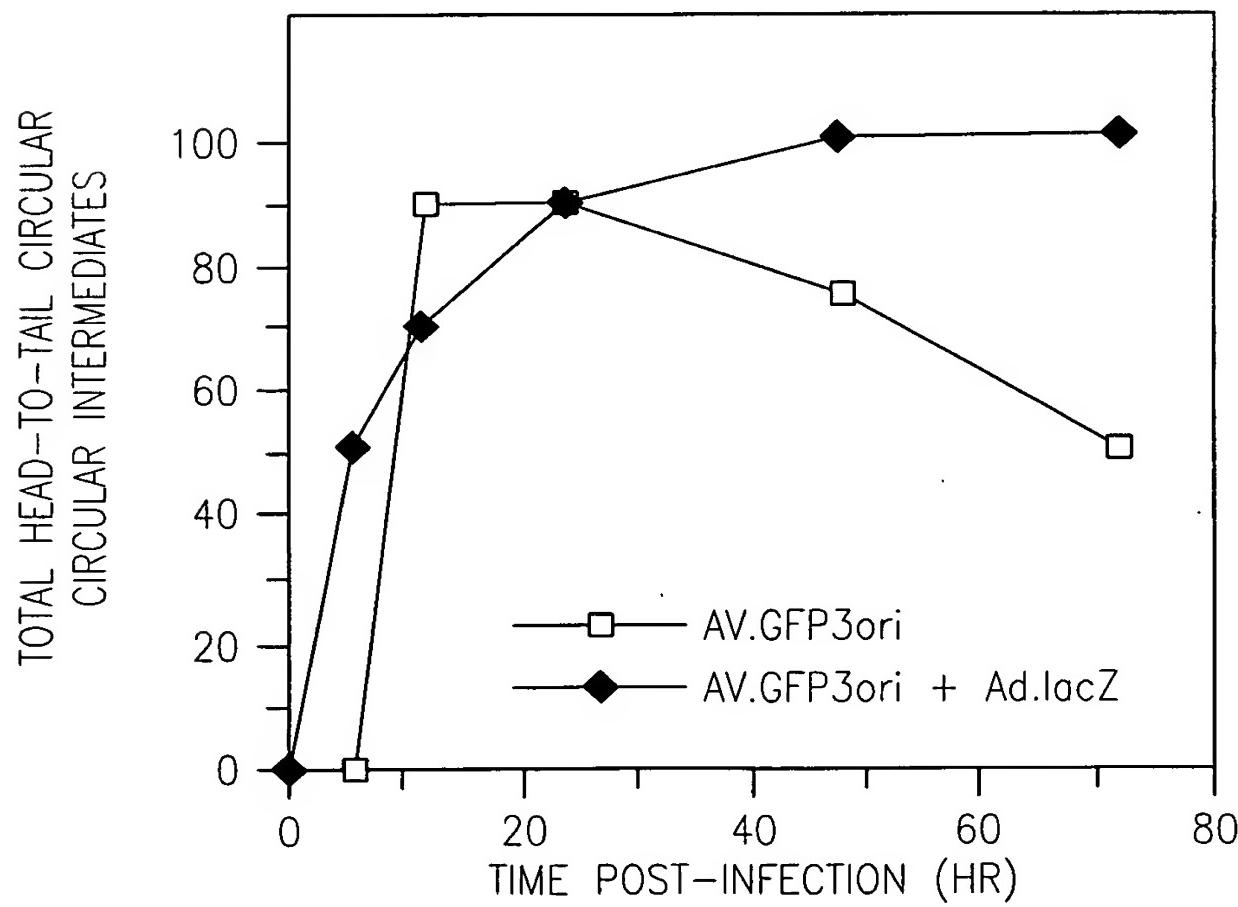


FIG. 3F

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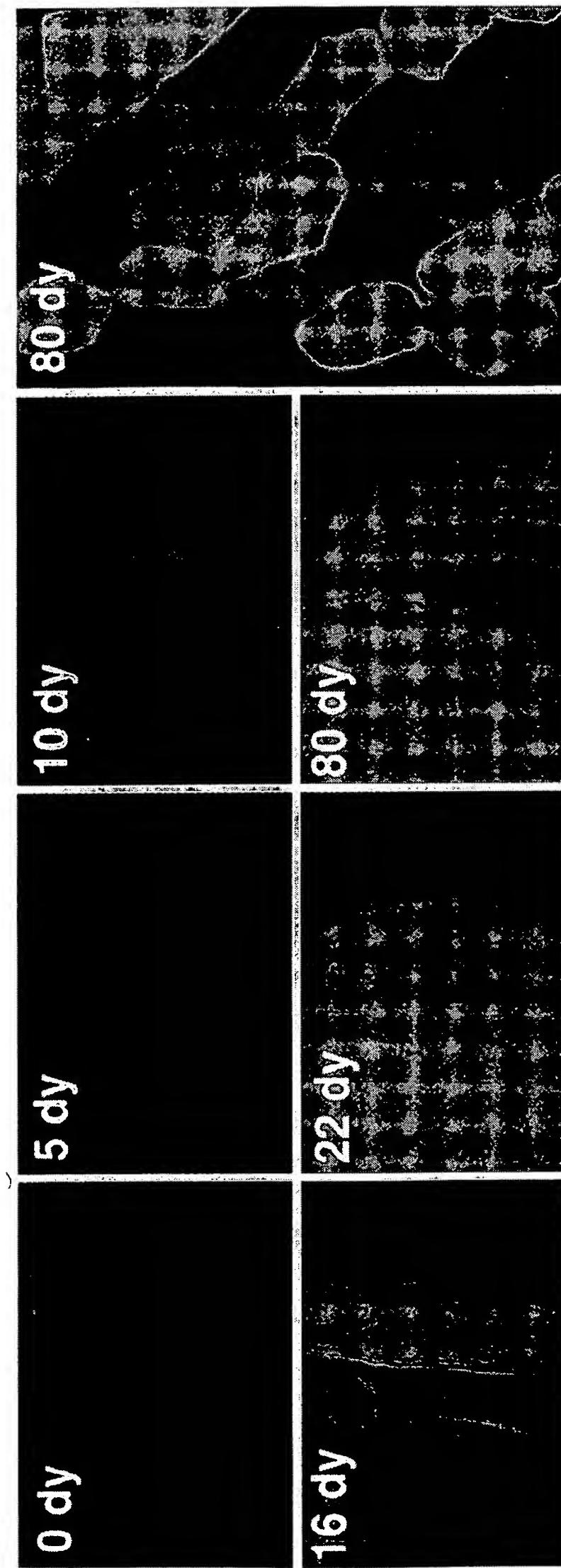


FIG. 4A

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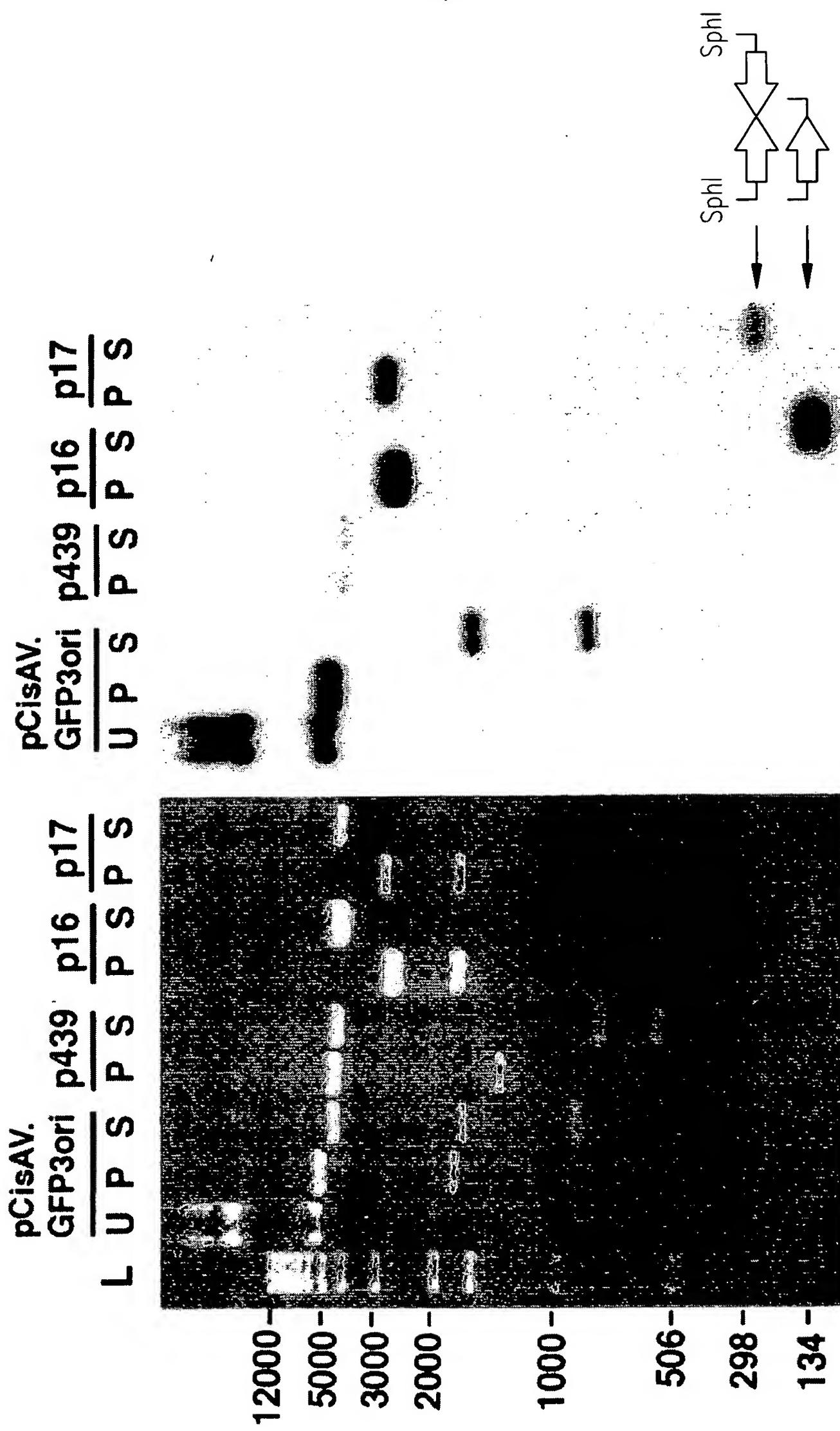


FIG. 4B

TITLE: ADENO-ASSOCIATED VIRUS VECTORS
INVENTOR NAME: John F. Engelhardt et al.
SERIAL NO.: 10/054,665

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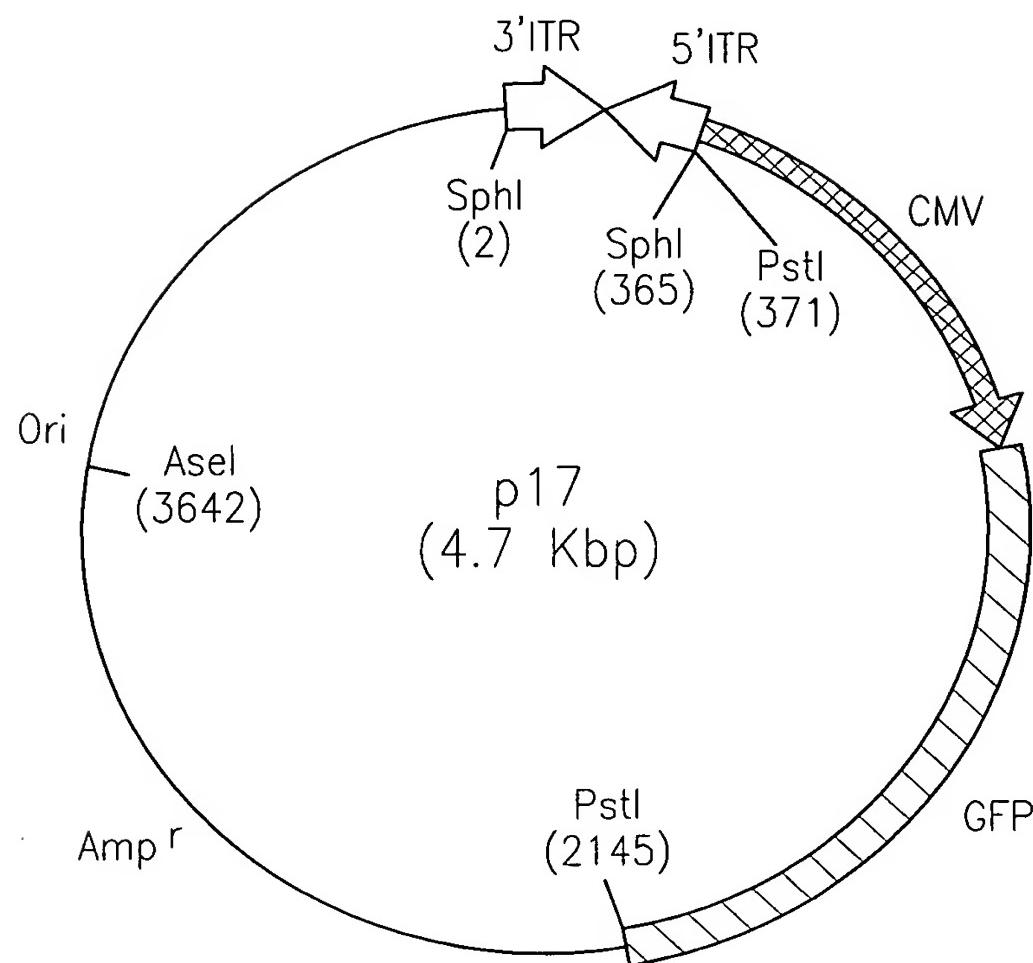


FIG. 4C

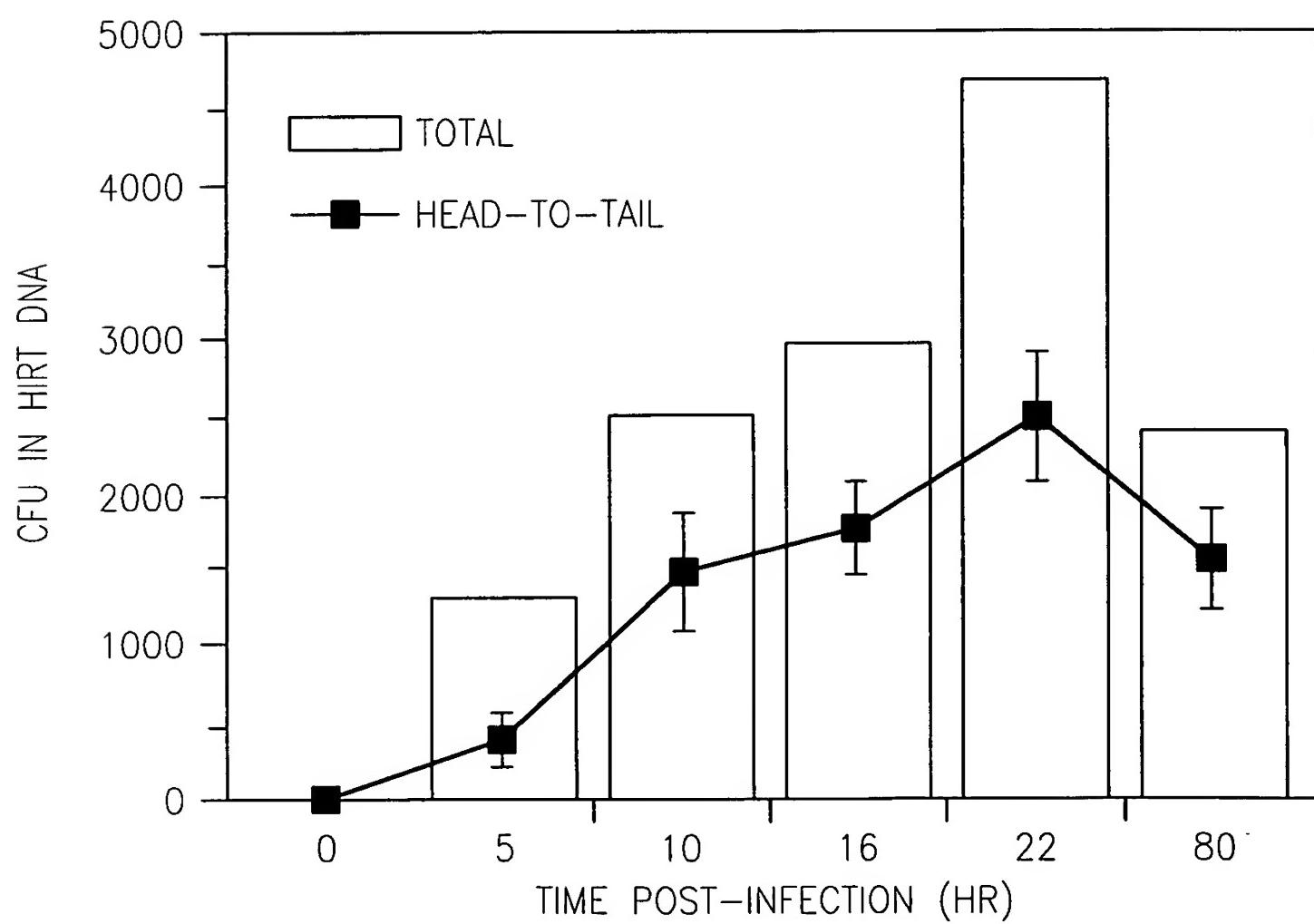


FIG. 5A

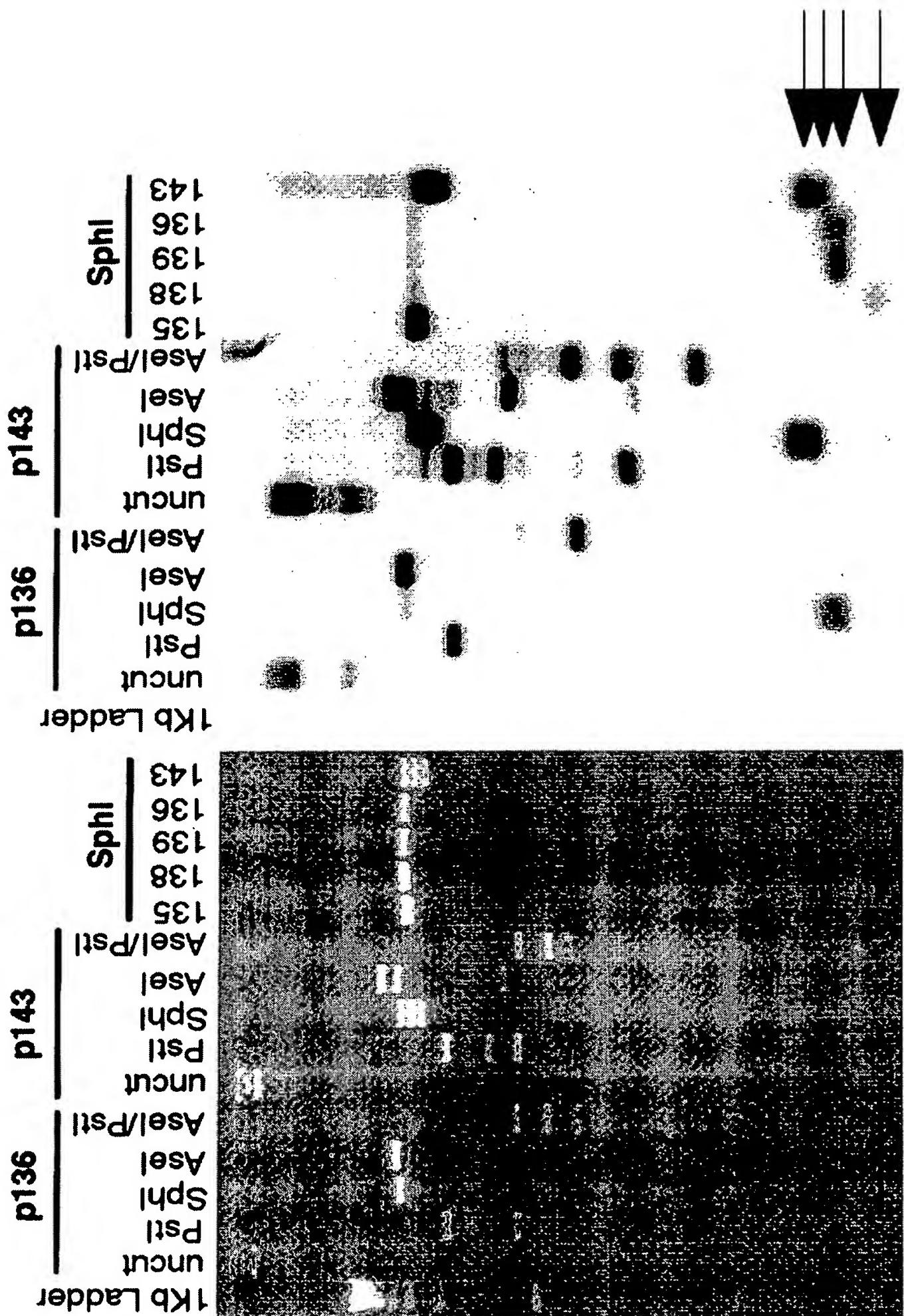


FIG. 5B

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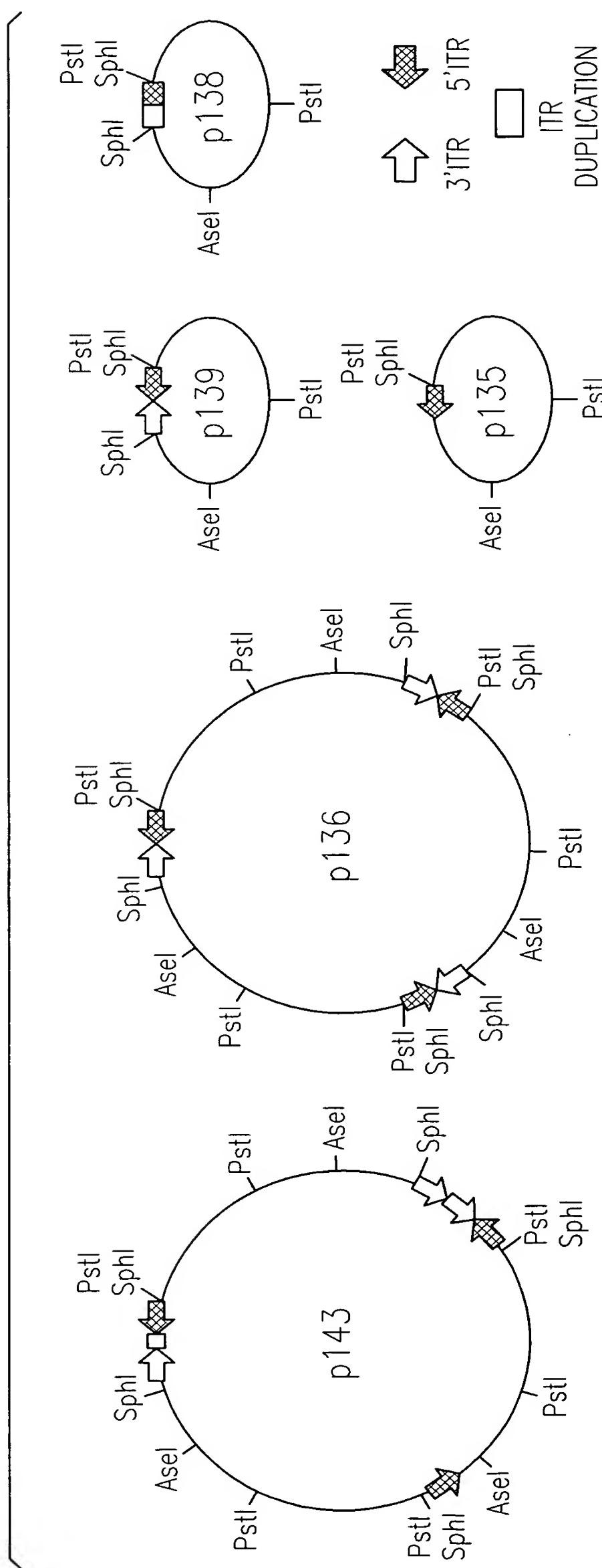


FIG. 5C

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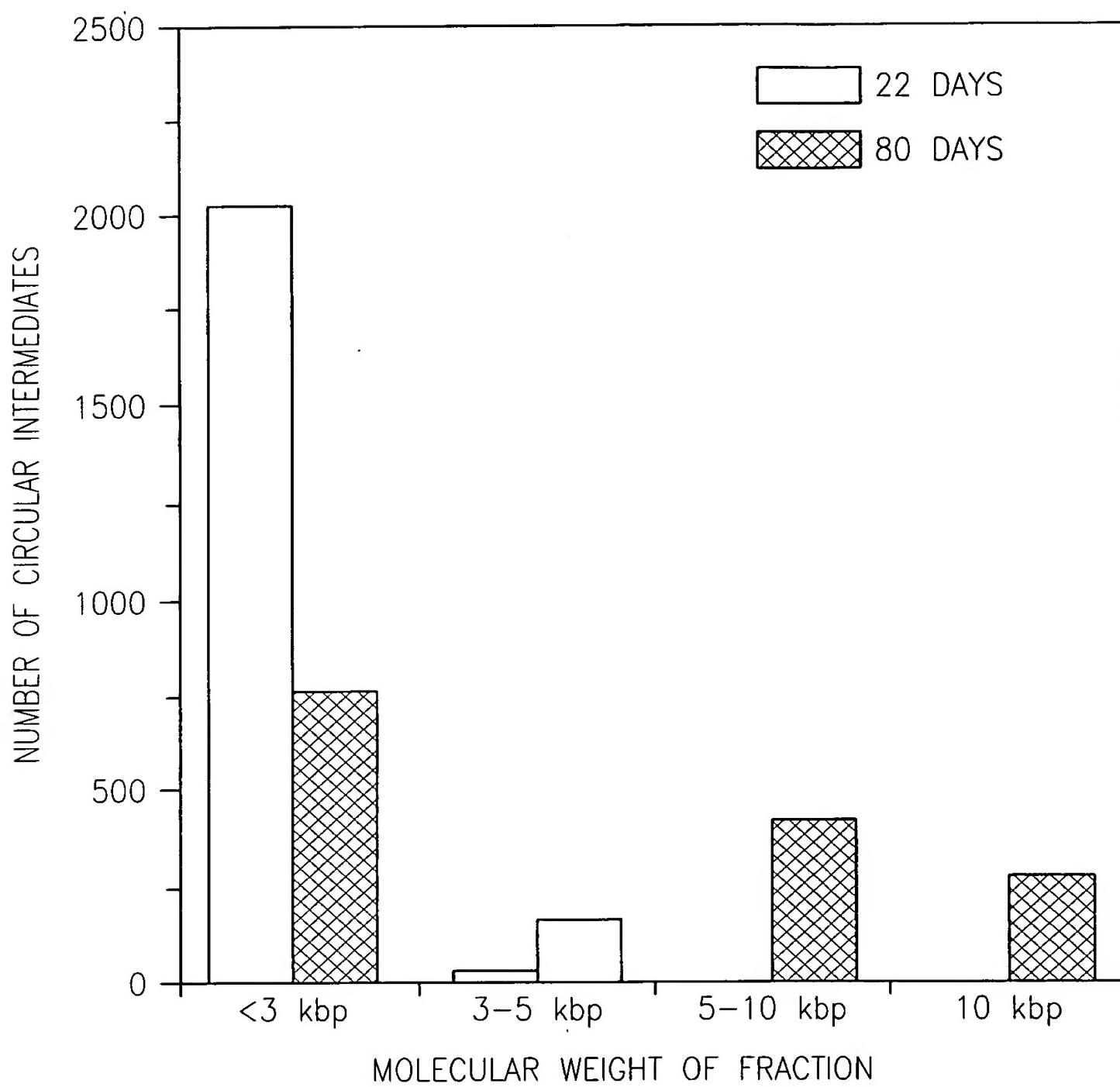


FIG. 6

TITLE: ADENO-ASSOCIATED VIRUS VECTORS
INVENTOR NAME: John F. Engelhardt et al.
SERIAL NO.: 10/054,665

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p81



p87



pCMVGFp

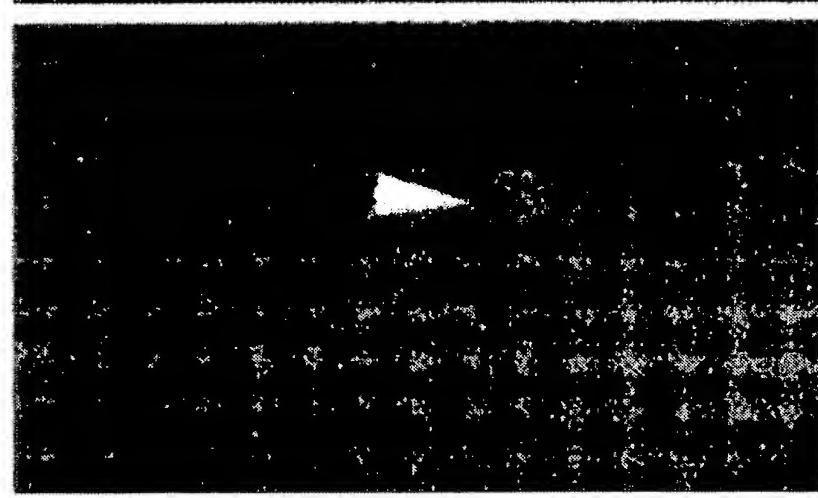


FIG. 7A

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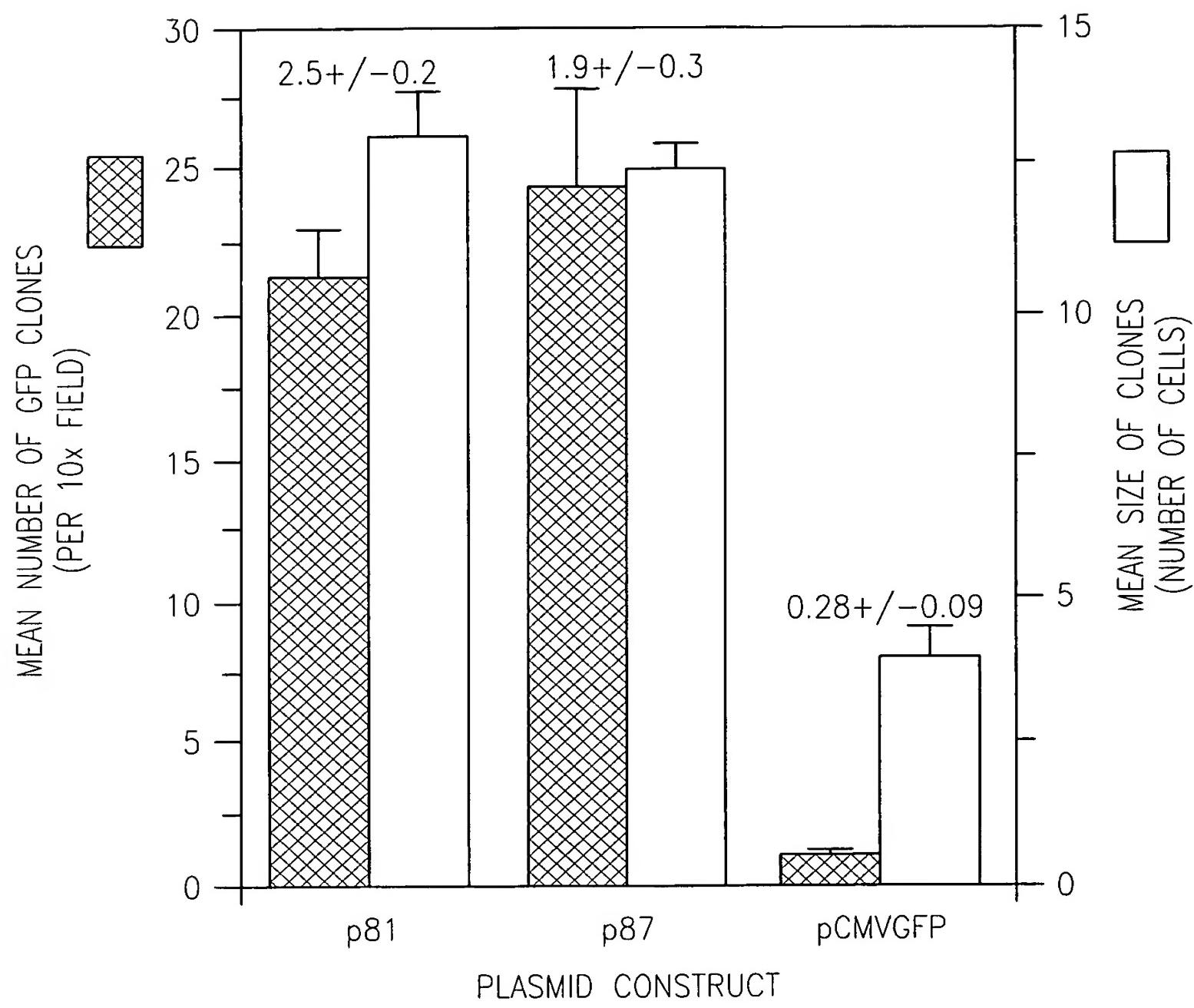


FIG. 7B

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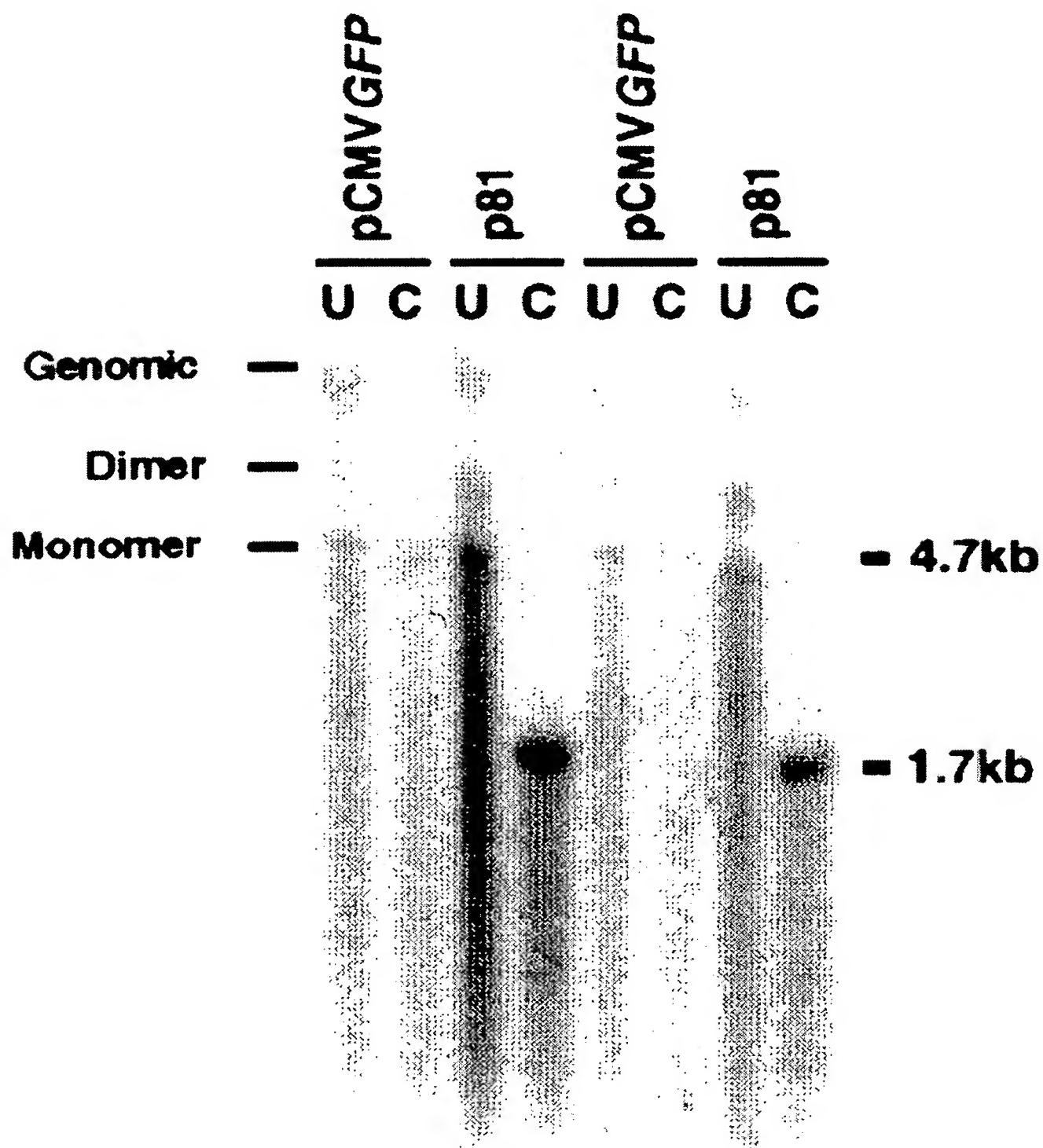


FIG. 7C

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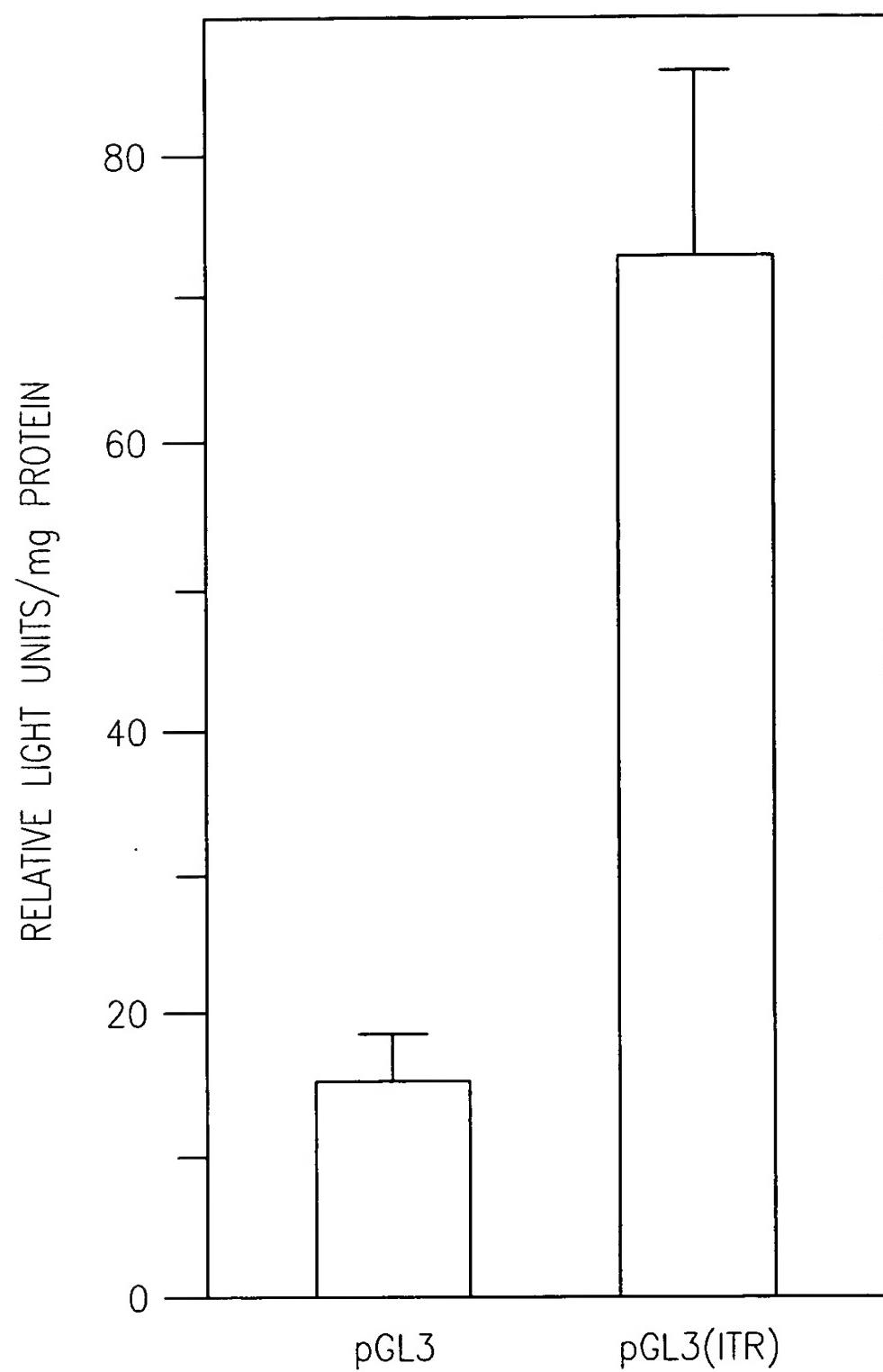


FIG. 7D

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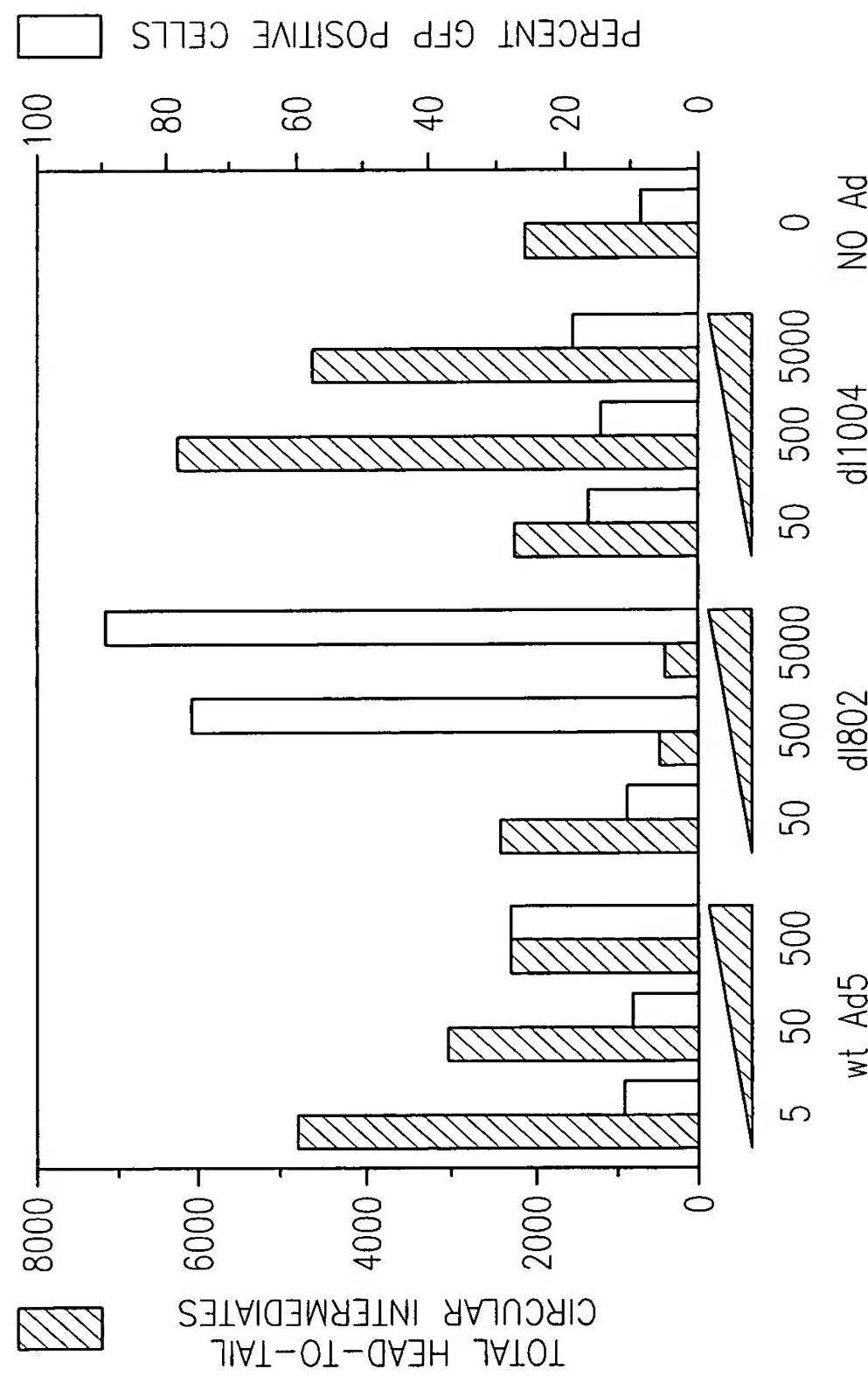


FIG. 8A

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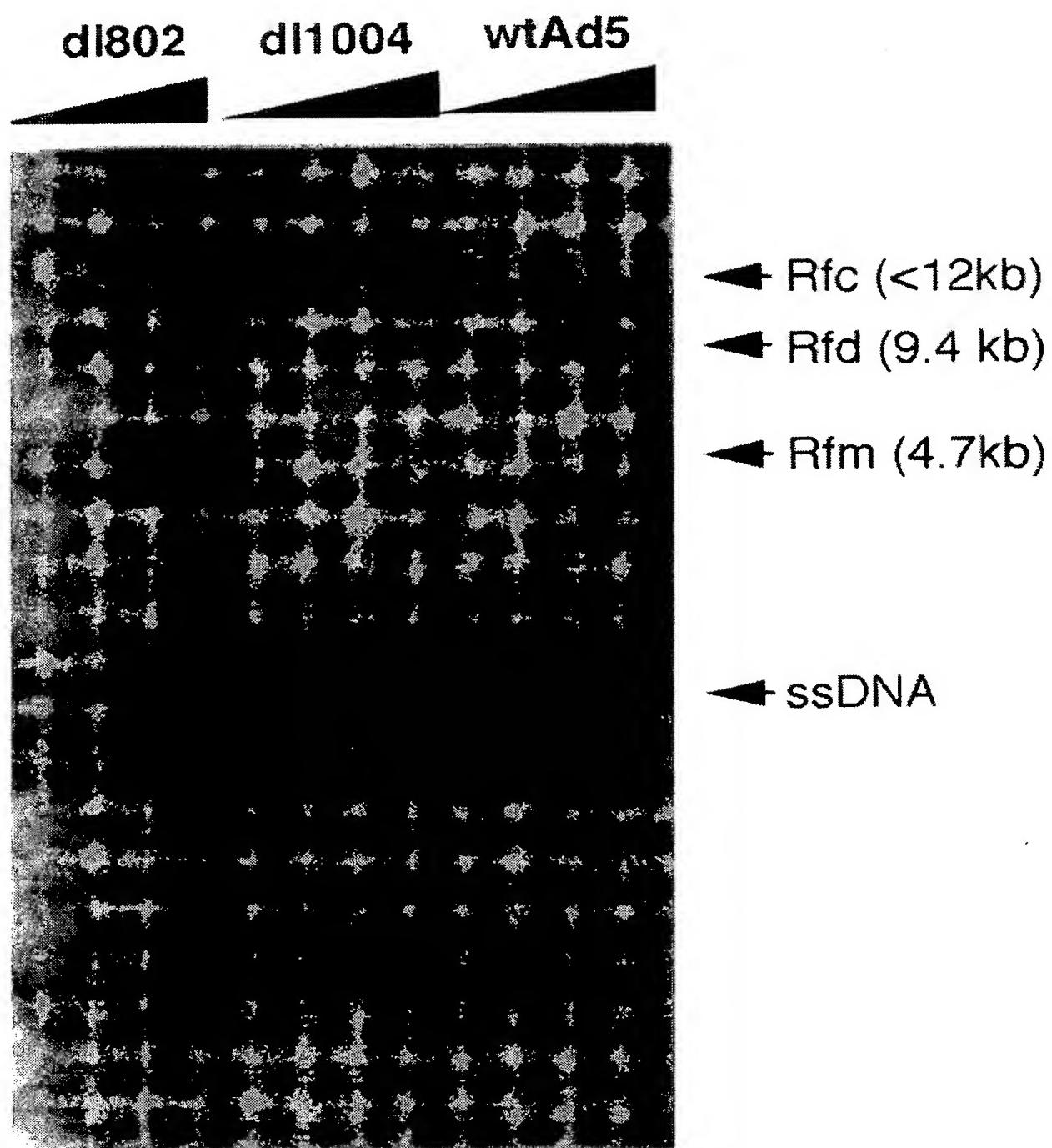


FIG. 8B

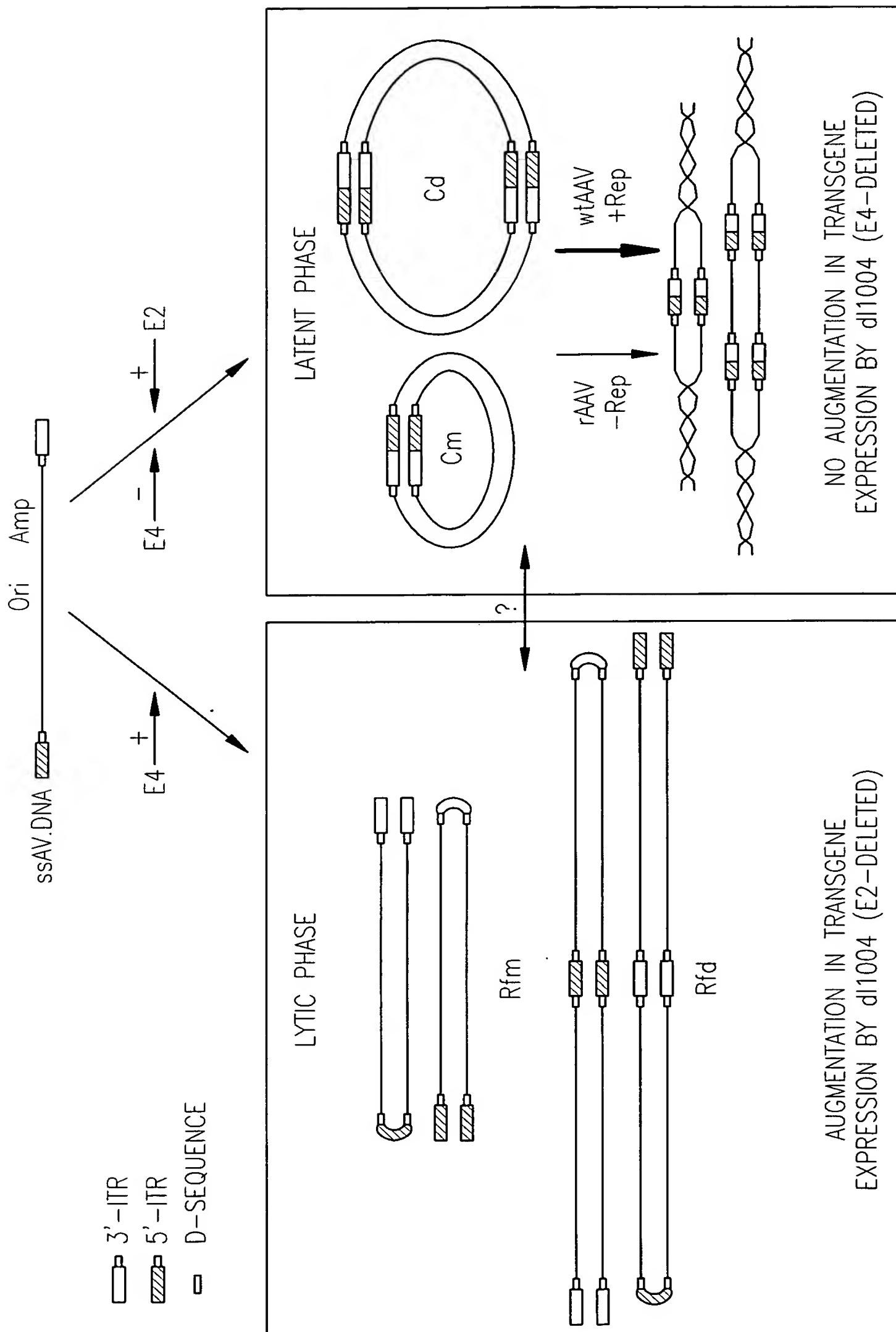


FIG. 9

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10 20 30 40 50 60
GCATGCAAGC TGTAGATAAG TAGCATGGCG GGTTAACAT TAACTACAAG GAACCCCTAG
CGTACGTTCG ACATCTATTTC ATCGTACCGC CCAATTAGTA ATTGATGTTTC CTTGGGGATC

70 80 90 100 110 120
TGATGGAGTT GGCCACTCCC TCTCTGCGCG CTCGCTCGCT CACTGAGGCC GGGCGGCCAA
ACTACCTCAA CCGGTGAGGG AGAGACGCGC GAGCGAGCGA GTGACTCCGG CCCGCCGGTT

130 140 150 160 170 180
AGGTCGCCCG ACGCCCGGGC TTTGCCCGGG CGGCCTCAGT GAGCGAGCGA GCGCGCAGAG
TCCAGCGGGC TGCGGGCCCG AAACGGGCC CCGGGAGTCA CTCGCTCGCT CGCGCGTCTC

190 200 210 220 230 240
AGGGAGTGGC CAACTCCATC ACTAGGGTT CCTTGTAGTT AATGATTAAC CCGCCATGCT
TCCCTCACCG GTTGAGGTAG TGATCCCCAA GGAACATCAA TTACTAATTG GGCGGTACGA

250 260 270 280
ACTTATCTAC CGATGAATTTC GAGCTTGCAT GC.....
TGAATAGATG GCTACTTAAG CTCGAACGTA CG.....

FIG. 10A

10 20 30 40 50 60
GCATGCAAGC TGTAGATAAG TAGCATGGCG GGTTAACAT TAACTACAAG GAACCCCTAG
CGTACGTTCG ACATCTATTTC ATCGTACCGC CCAATTAGTA ATTGATGTTTC CTTGGGGATC

70 80 90 100 110 120
TGATGGAGTT GGCCACTCCC TCTCTGCGCG CTCGCTCGCT CACTGAGGCC GGGCGCGCGC
ACTACCTCAA CCGGTGAGGG AGAGACGCGC GAGCGAGCGA GTGACTCCGG CCCGCCGGCG

130 140 150 160 170 180
TCGCTCGCTC ACTGAGGCCG GGCGACCAAA GGTCGCCGA GCCCGGGCTT TGCCCGGGCG
AGCGAGCGAG TGACTCCGGC CCGCTGGTT CCAGCGGGCT CGGGCCCGAA ACGGGCCCGC

190 200 210 220 230 240
GCCTCAGTGA GCGAGCGCGC GCGCAGAGAG GGAGTGGCCA ACTCCATCAC TAGGGGTTCC
CGGAGTCACT CGCTCGCGCG CGCGTCTCTC CCTCACCGGT TGAGGTAGTG ATCCCCAAGG

250 260 270 280 290 300
TTGTAGTTAA TGATTAACCC GCCATGCTAC TTATCTACCG ATGAATTCGA GCTTGCATGC
AACATCAATT ACTAATTGGG CGGTACGATG AATAGATGGC TACTTAAGCT CGAACGTACG

FIG. 10B

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10 20 30 40 50 60
GCATGCAAGC TGTAGATAAG TAGCATGGCG GGTTAACAT TAACTACAAG GAACCCCTAG
CGTACGTTCG ACATCTATTG ATCGTACCGC CCAATTAGTA ATTGATGTTG CTTGGGGATC

70 80 90 100 110 120
TGATGGAGTT GGCCACTCCC TCTCTGCGCG CTGGCTCGCT CACTGAGGCC GGGCGACCAA
ACTACCTCAA CCGGTGAGGG AGAGACGCGC GAGCGAGCGA GTGACTCCGG CCCGCTGGTT

130 140 150 160 170 180
AGGTGCCCCG ACGCCCGGGC TTTGGTCGCC CGGCCTCAGT GAGCGAGCGA GCGCGCAGAG
TCCAGCGGGC TGCGGGCCCG AAACCAGCGG GCCGGAGTCA CTCGCTCGCT CGCGCGTCTC

190 200 210 220 230 240
AGGGAGTGGC CAACTCCATC ACTAGGGGTT CCTTGTTAGTT AATGATTAAC CCGCCATGCT
TCCCTCACCG GTTGAGGTAG TGATCCCCAA GGAACATCAA TTACTAATTG GGCAGTACGA

250 260 270 280
ACTTATCTAC CGATGAATTG GAGCTTGCAT GC.....
TGAATAGATG GCTACTTAAG CTCGAACGTA CG.....

FIG. 10C

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	10	20	30	40	50		
p81	1	GCATGCAAGC	TGTAGATAAG	TAGCATGGCG	GGTTAACAT	TAACCTACAAG	50
p79	1	GCATGCAAGC	TGTAGATAAG	TAGCATGGCG	GGTTAACAT	TAACCTACAAG	50
p1202	1	GCATGCAAGC	TGTAGATAAG	TAGCATGGCG	GGTTAACAT	TAACCTACAAG	50
	60	70	80	90	100		
p81	51	GAACCCCTAG	TGATGGAGTT	GGCCACTCCC	TCTCTGCGCG	CTCGCTCGCT	100
p79	51	GAACCCCTAG	TGATGGAGTT	GGCCACTCCC	TCTCTGCGCG	CTCGCTCGCT	100
p1202	51	GAACCCCTAG	TGATGGAGTT	GGCCACTCCC	TCTCTGCGCG	CTCGCTCGCT	100
	110	120	130	140	150		
p81	101	CACTGAGGCC	GGGCG-----	-----	-----	---GCCAAAG	150
p79	101	CACTGAGGCC	GGGCGCGCGC	TCGCTCGCTC	ACTGAGGCCG	GGCGaCcAAa	150
p1202	101	CACTGAGGCC	GGGCG-----	-----	-----	---ACCAAAG	150
	160	170	180	190	200		
p81	151	GTCGCCCCGAC	GCCCAGGGCTT	TGCCCCGGCG	GCCTCAGTGA	GCGAGCGAGC	200
p79	151	GgtcgCCcga	GCCCAGGGCTT	TGCCCCGGCG	GCCTCAGTGA	GCGAGCGcGC	200
p1202	151	GTCGCCCCGAC	GCCCAGGGCTT	TGgtCGccCG	GCCTCAGTGA	GCGAGCGAGC	200
	210	220	230	240	250		
p81	201	GCGCAGAGAG	GGAGTGGCCA	ACTCCATCAC	TAGGGGTTCC	TTGTAGTTAA	250
p79	201	GCGCAGAGAG	GGAGTGGCCA	ACTCCATCAC	TAGGGGTTCC	TTGTAGTTAA	250
p1202	201	GCGCAGAGAG	GGAGTGGCCA	ACTCCATCAC	TAGGGGTTCC	TTGTAGTTAA	250
	260	270	280	290	300		
p81	251	TGATTAACCC	GCCATGCTAC	TTATCTACCG	ATGAATTGCA	GCTTGATGC	300
p79	251	TGATTAACCC	GCCATGCTAC	TTATCTACCG	ATGAATTGCA	GCTTGATGC	300
p1202	251	TGATTAACCC	GCCATGCTAC	TTATCTACCG	ATGAATTGCA	GCTTGATGC	300

FIG. 11

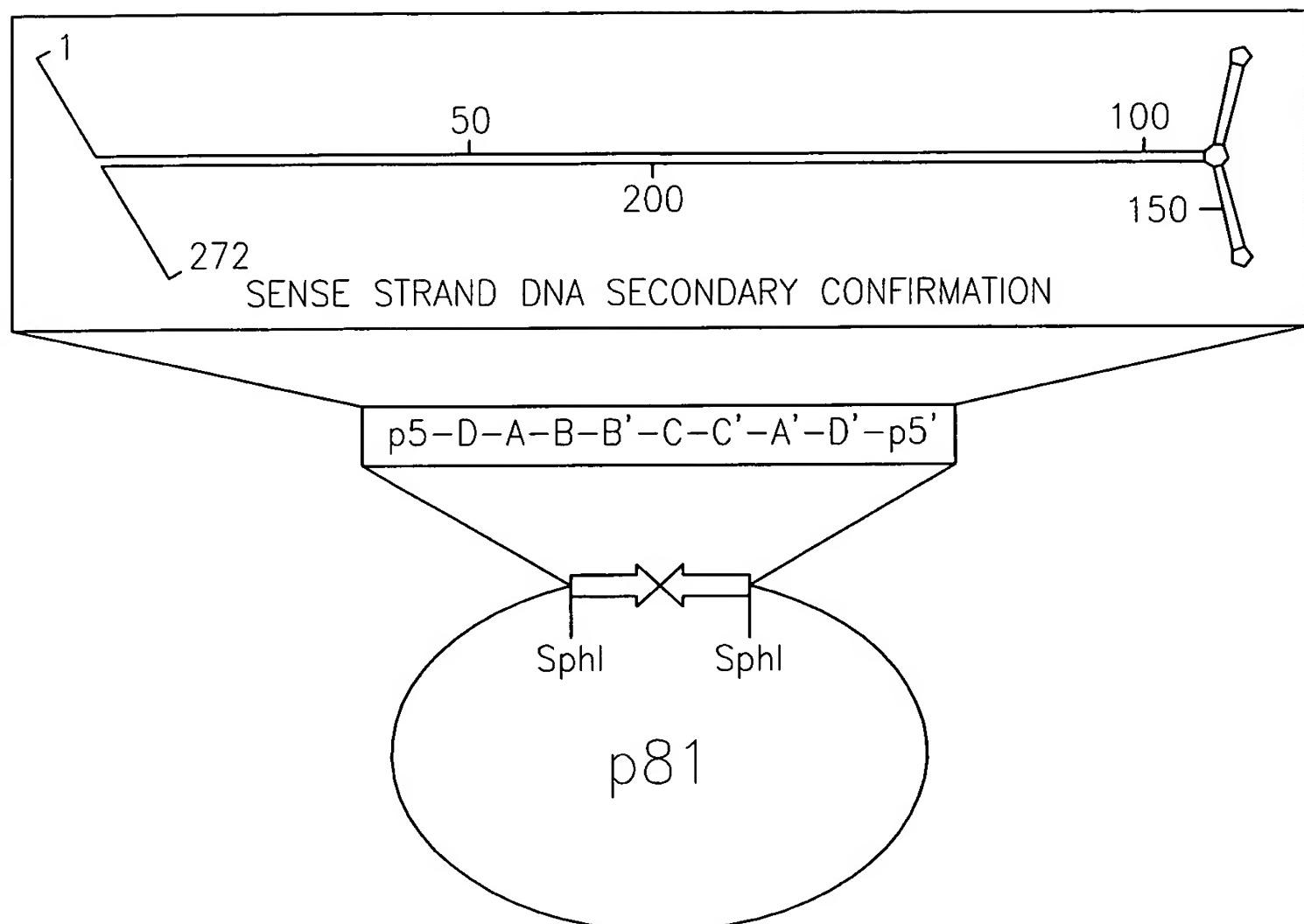


FIG. 12A

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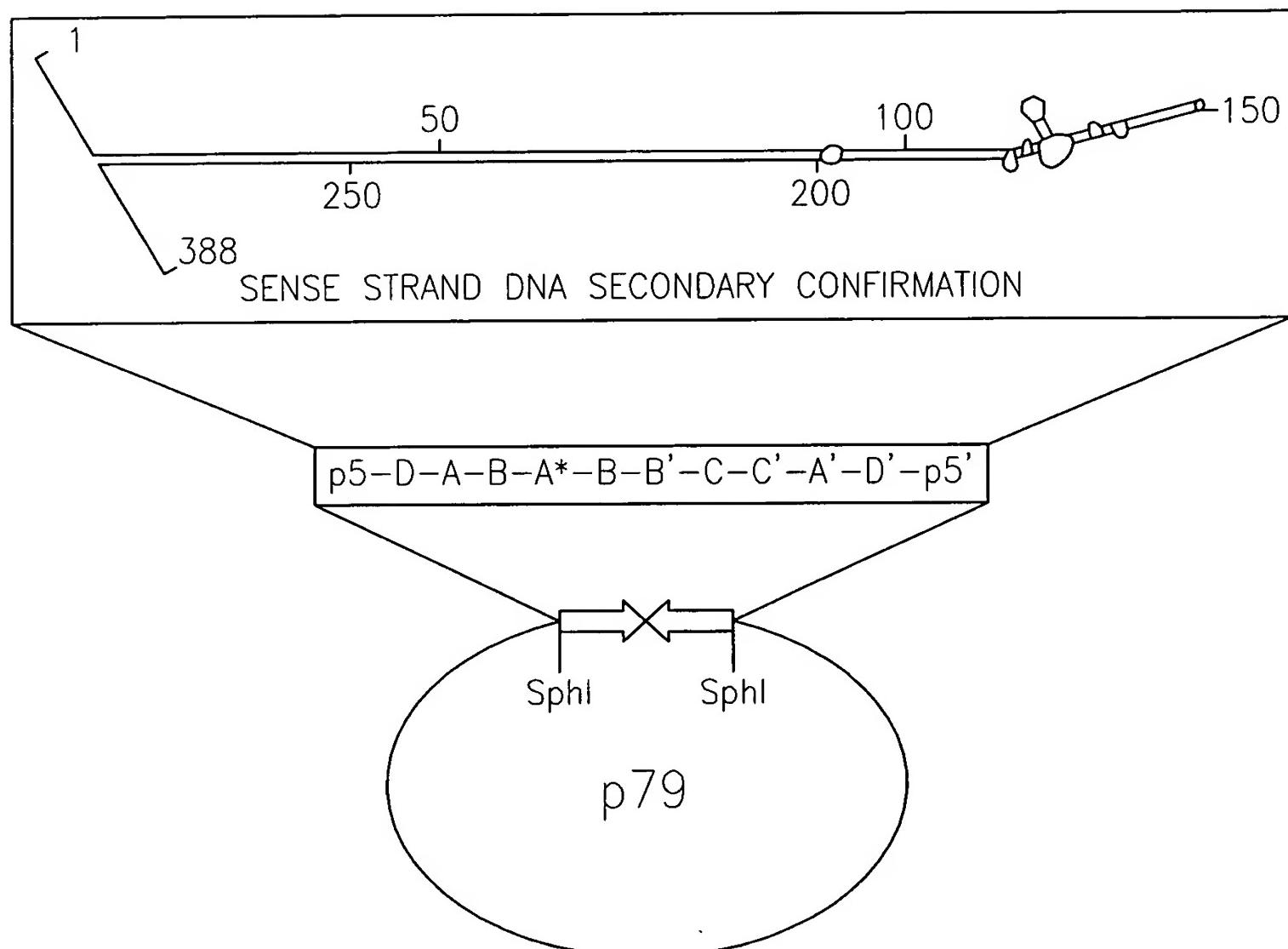


FIG. 12B

TITLE: ADENO-ASSOCIATED VIRUS VECTORS
INVENTOR NAME: John F. Engelhardt et al.
SERIAL NO.: 10/054,665

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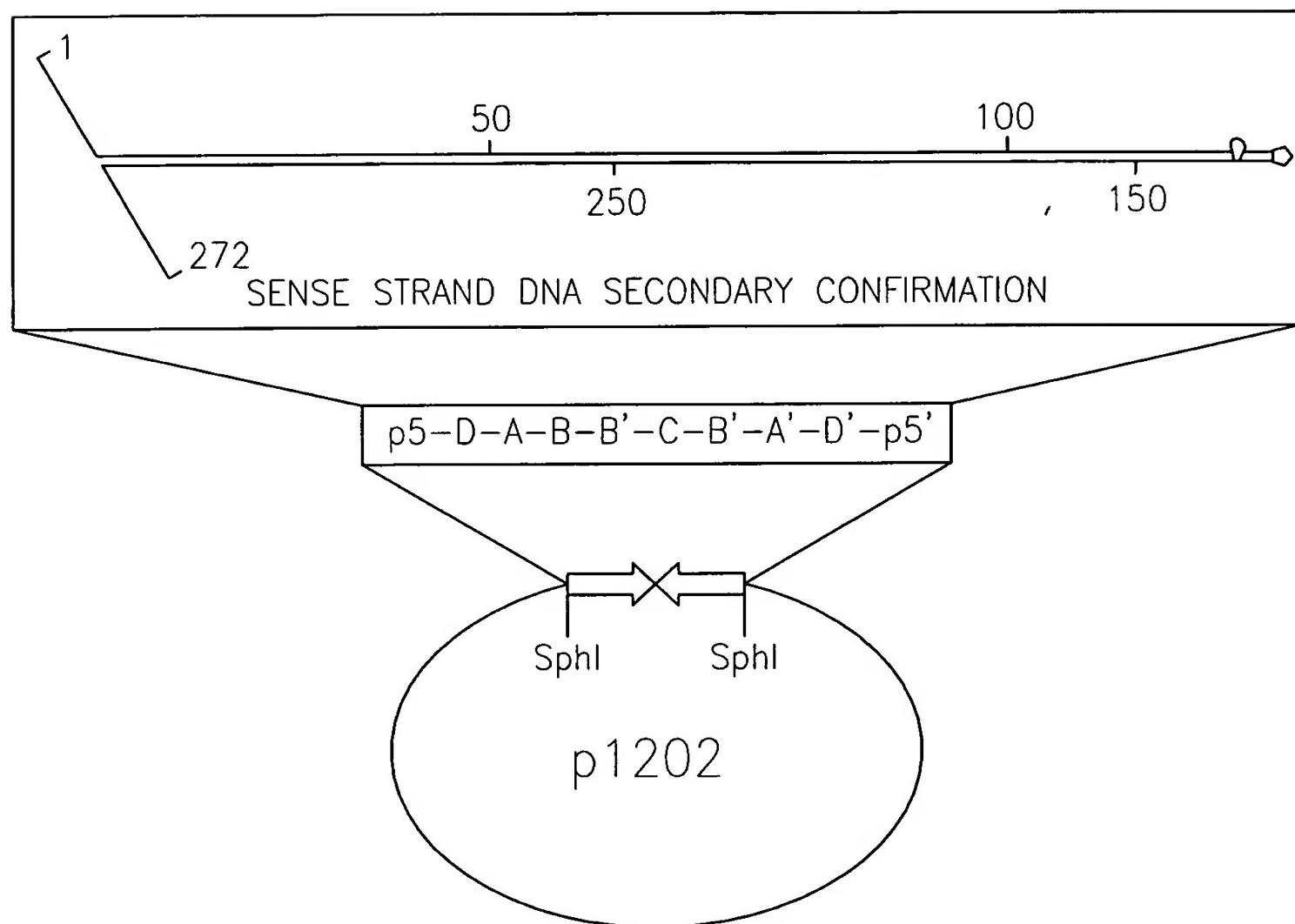


FIG. 12C

pCisAV.GFPori

p81

Bright Field

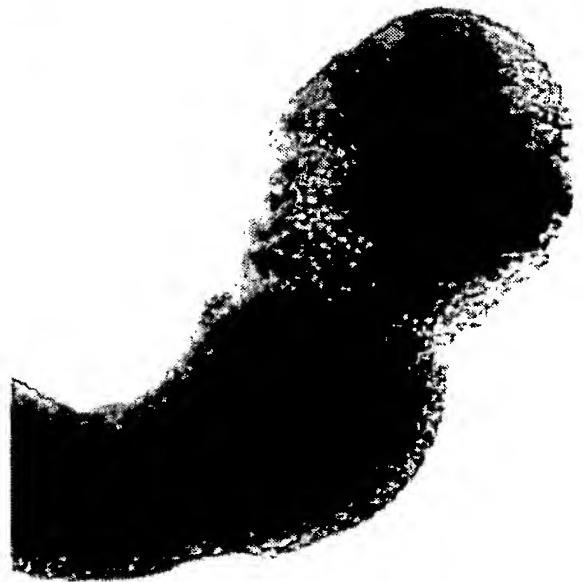


FIG. 13

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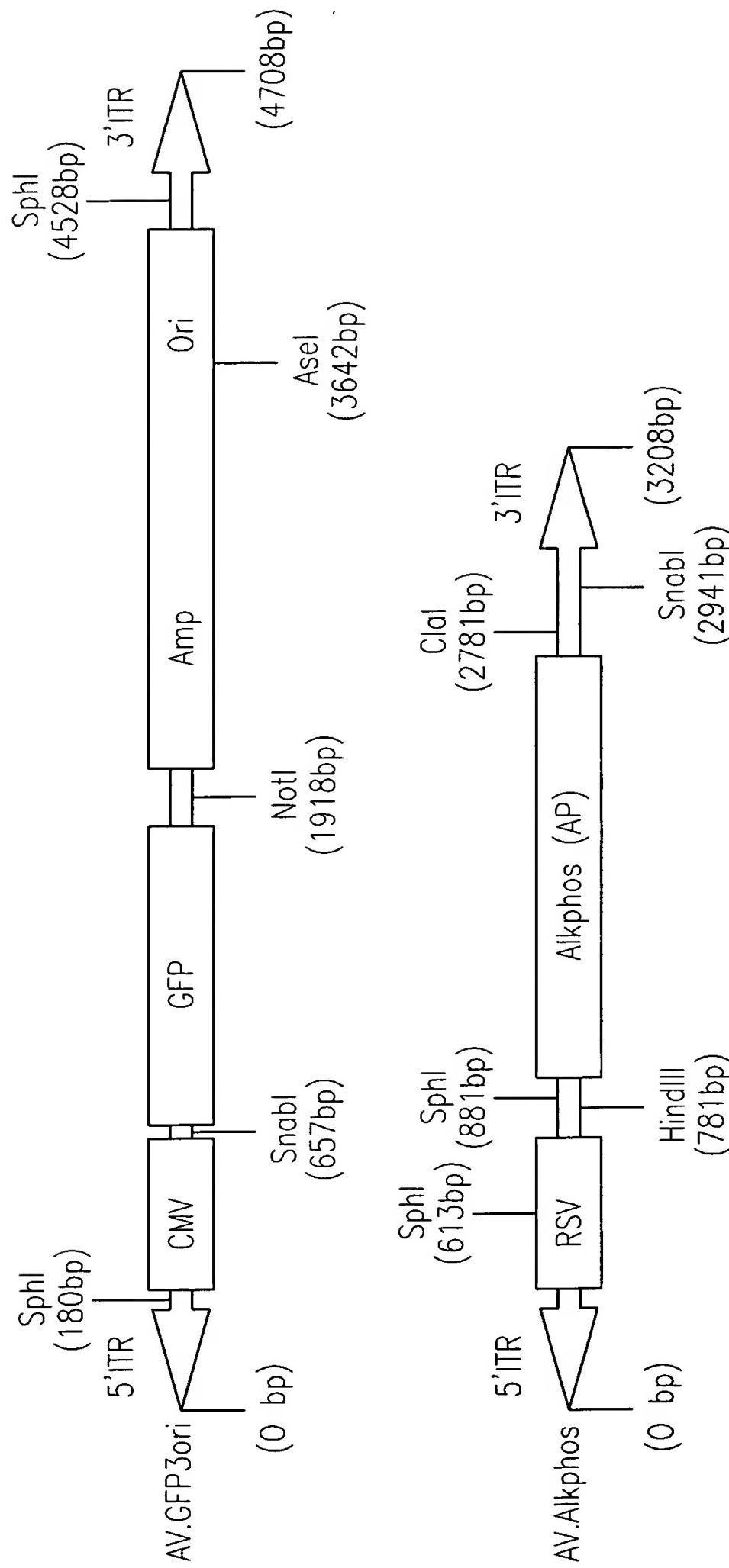


FIG. 14A

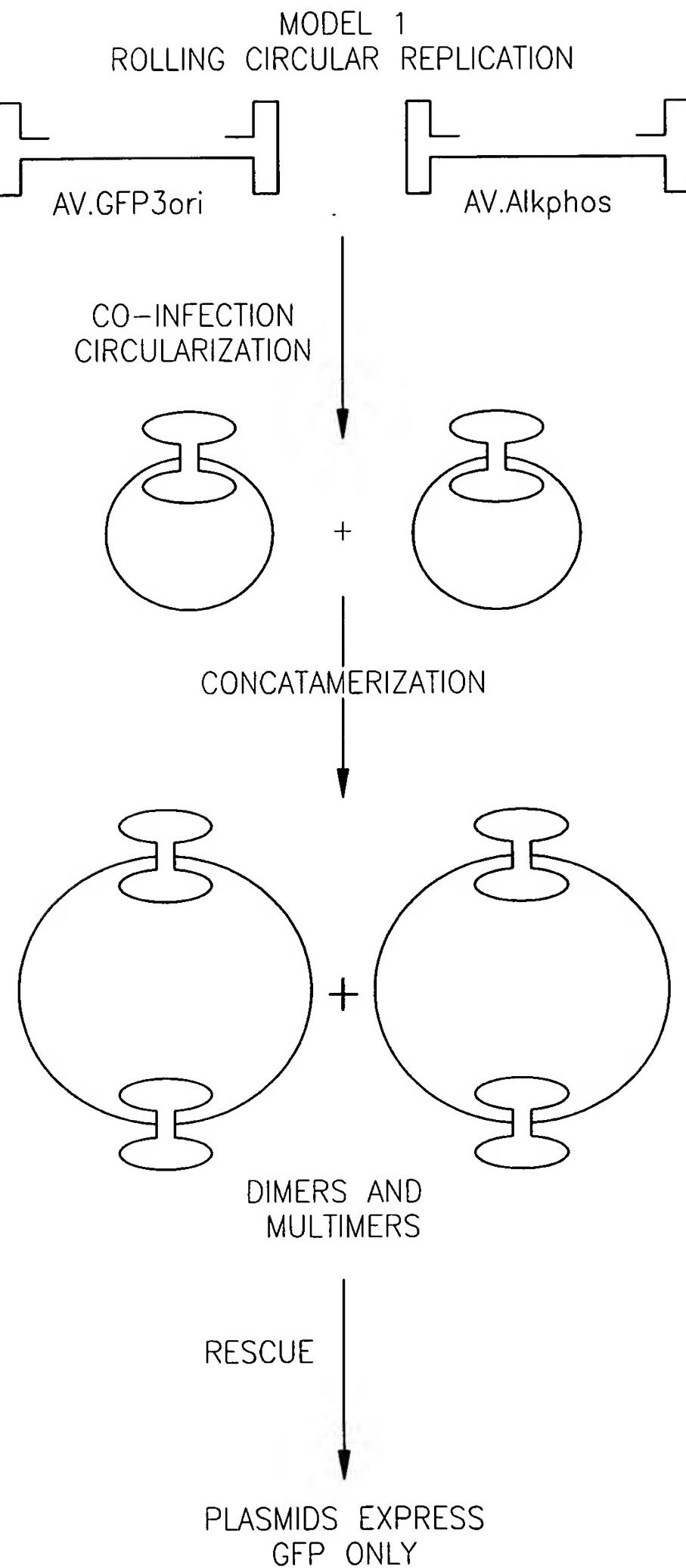


FIG. 14B

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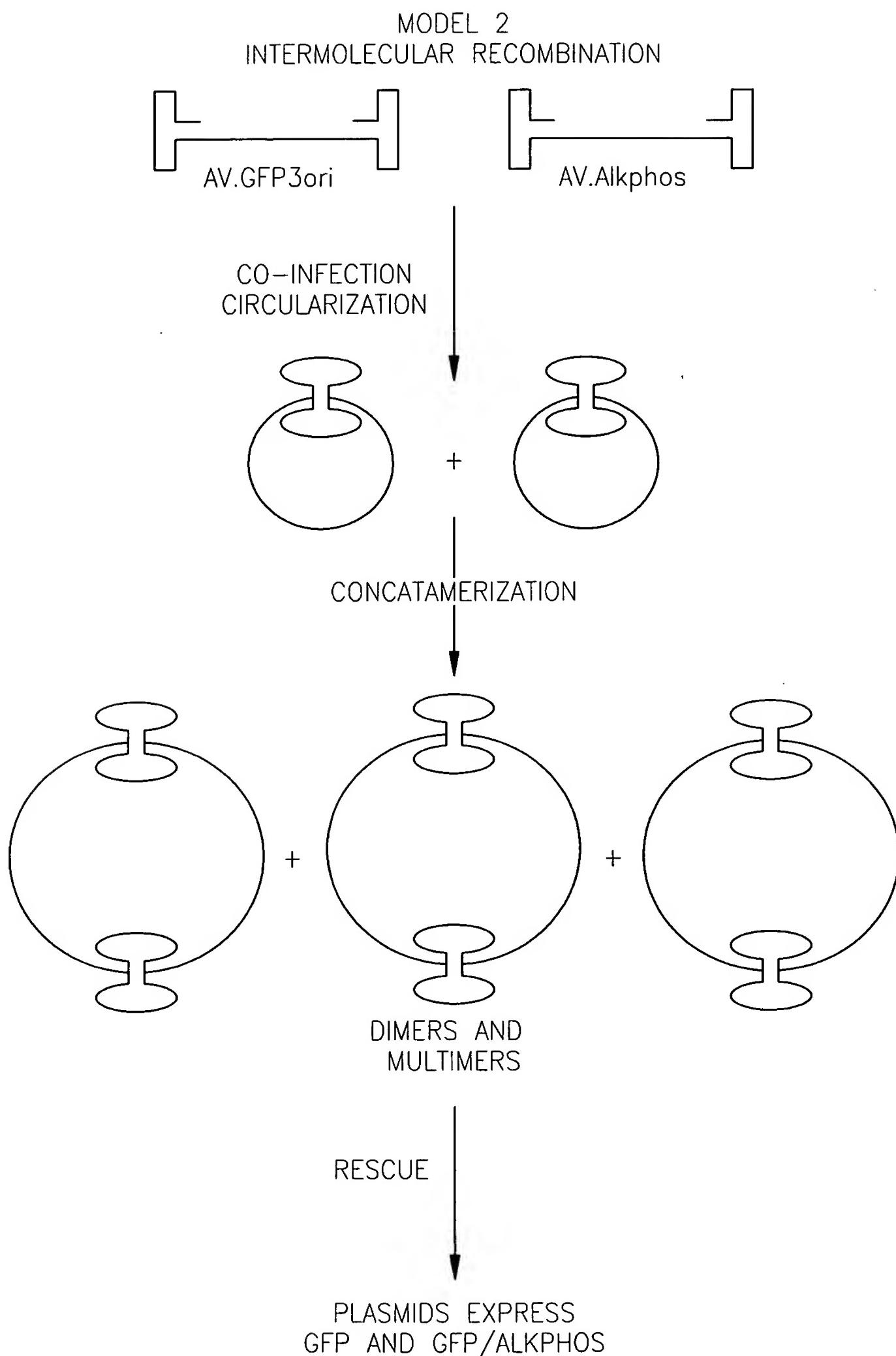


FIG. 14C

TITLE: ADENO-ASSOCIATED VIRUS VECTORS
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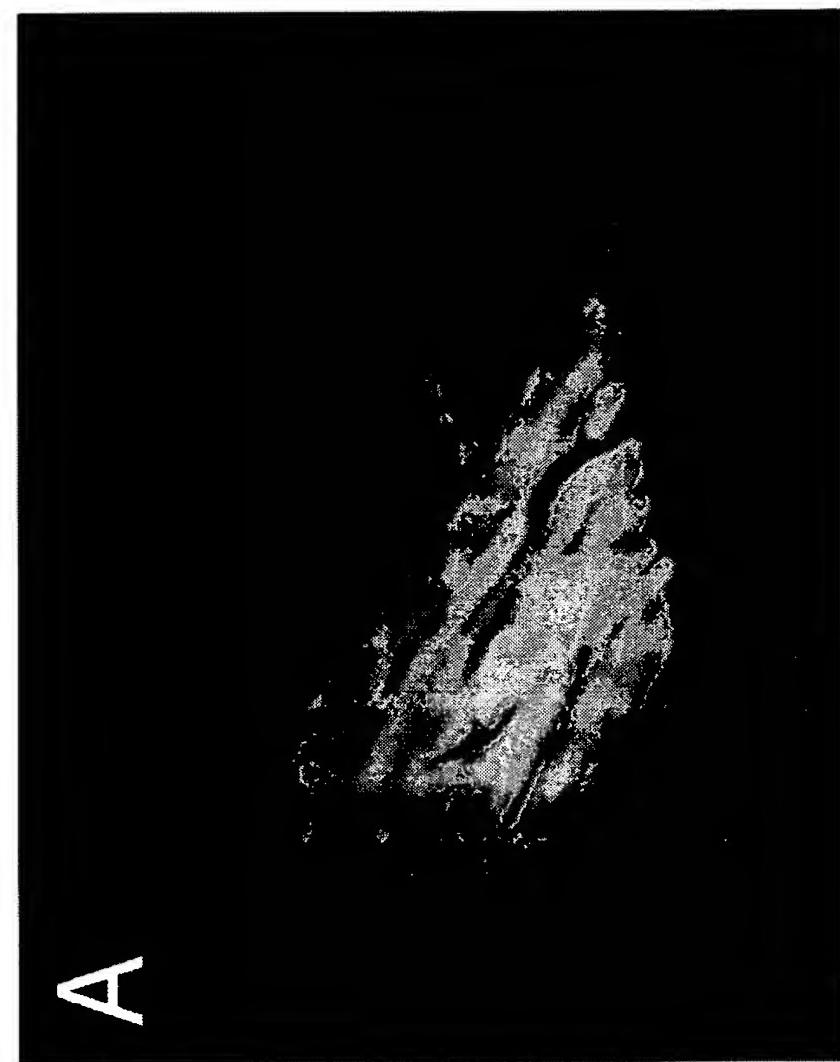
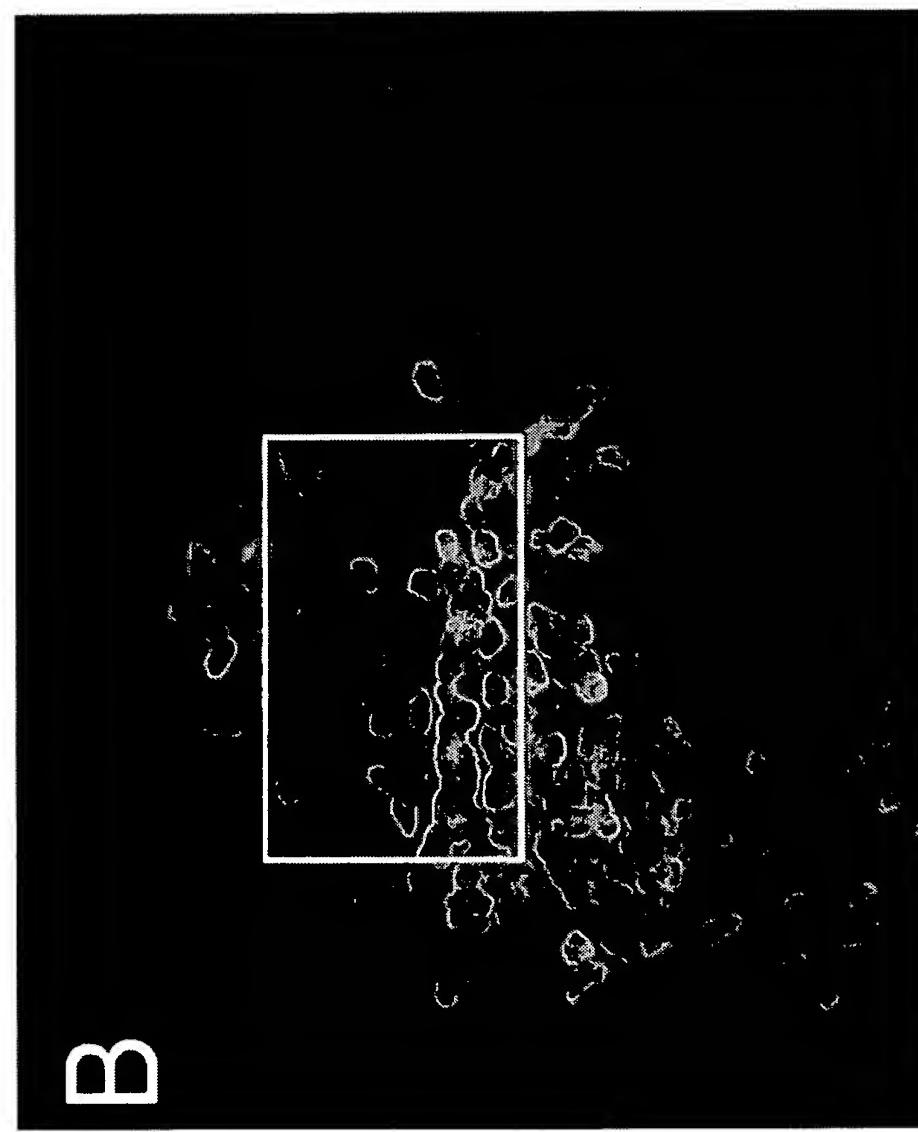


FIG. 15A

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B'



B

FIG. 15B

TITLE: ADENO-ASSOCIATED VIRUS VECTORS
INVENTOR NAME: John F. Engelhardt et al.
SERIAL NO.: 10/054,665

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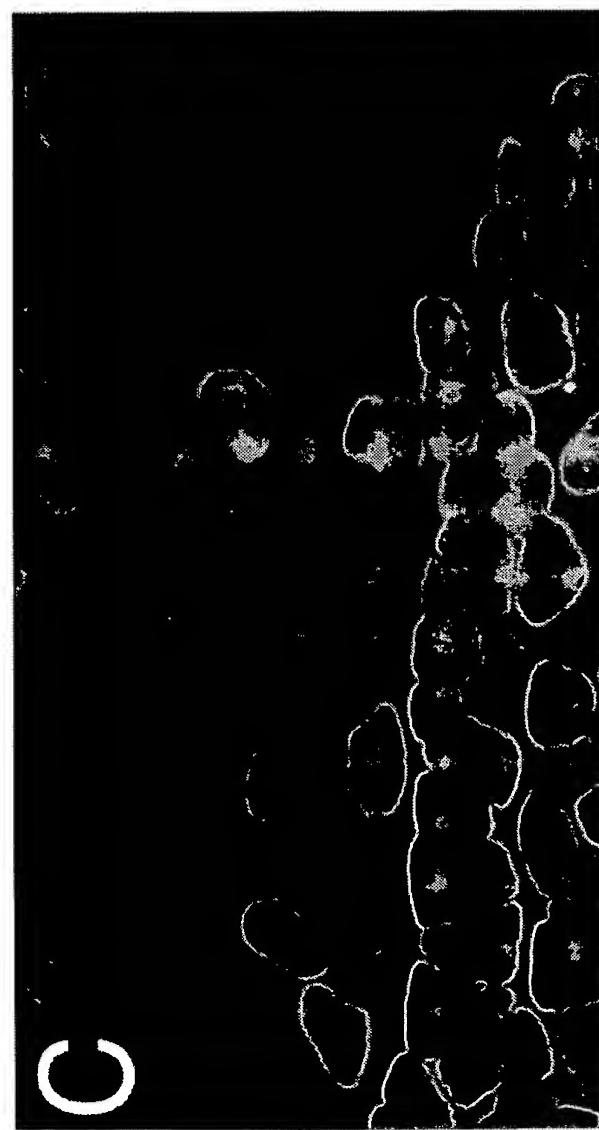


FIG. 15C

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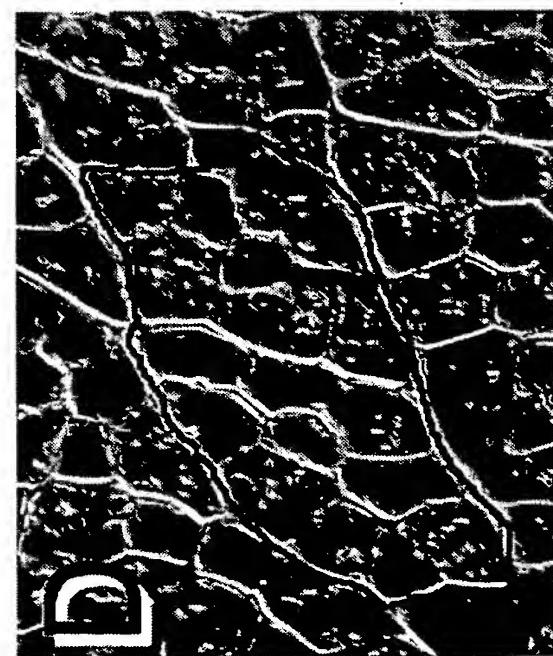
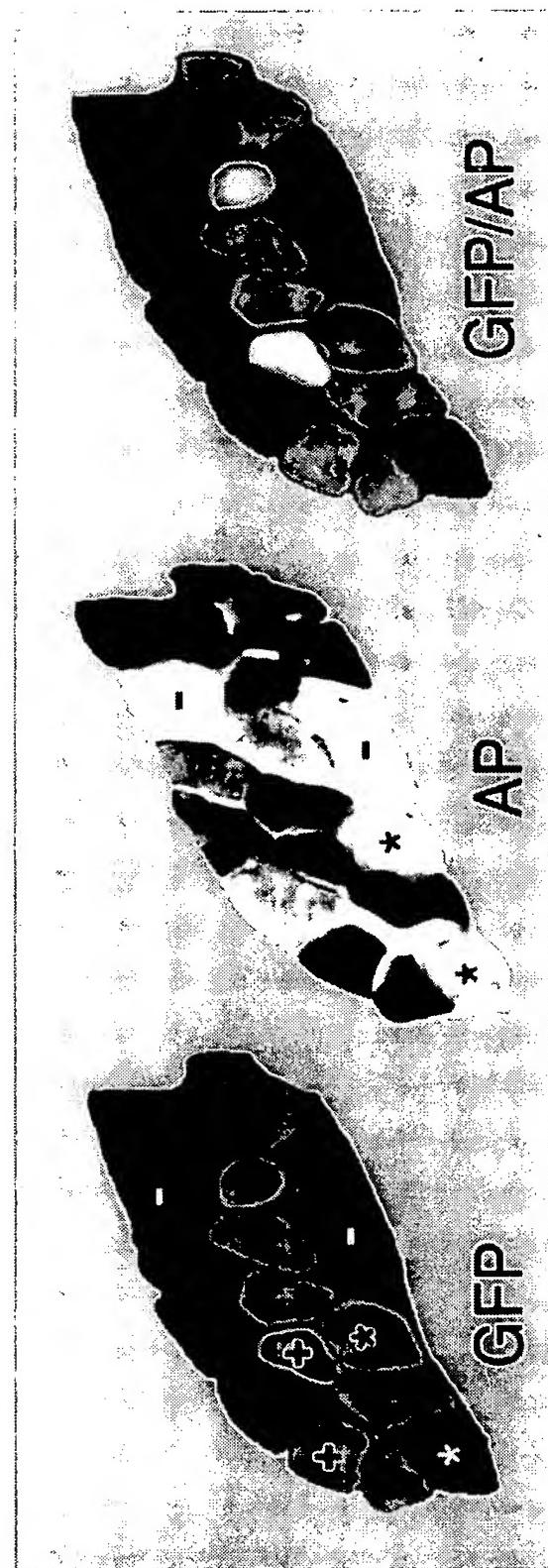


FIG. 15D

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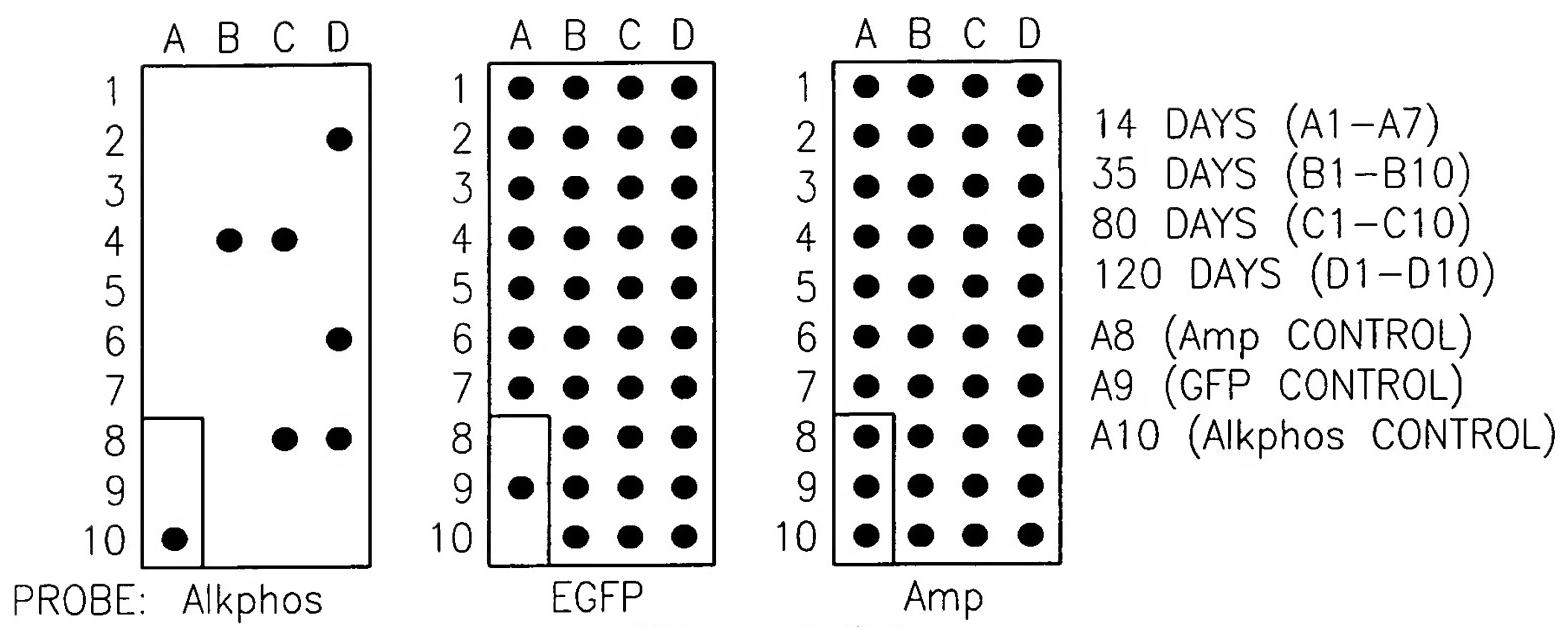


FIG. 16A

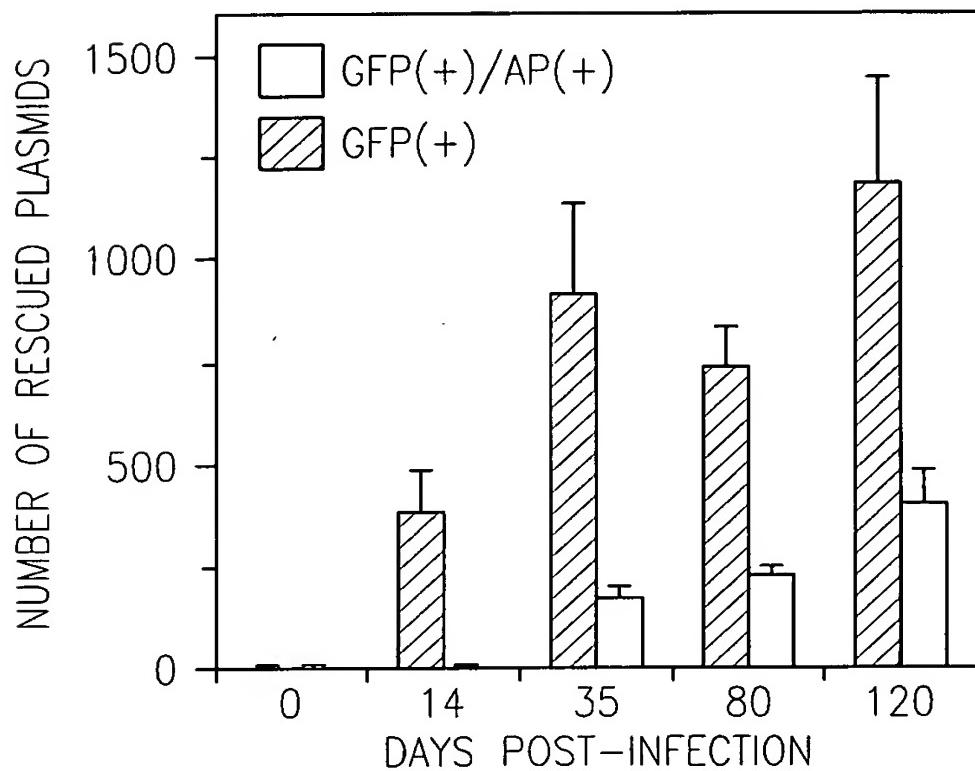


FIG. 16B

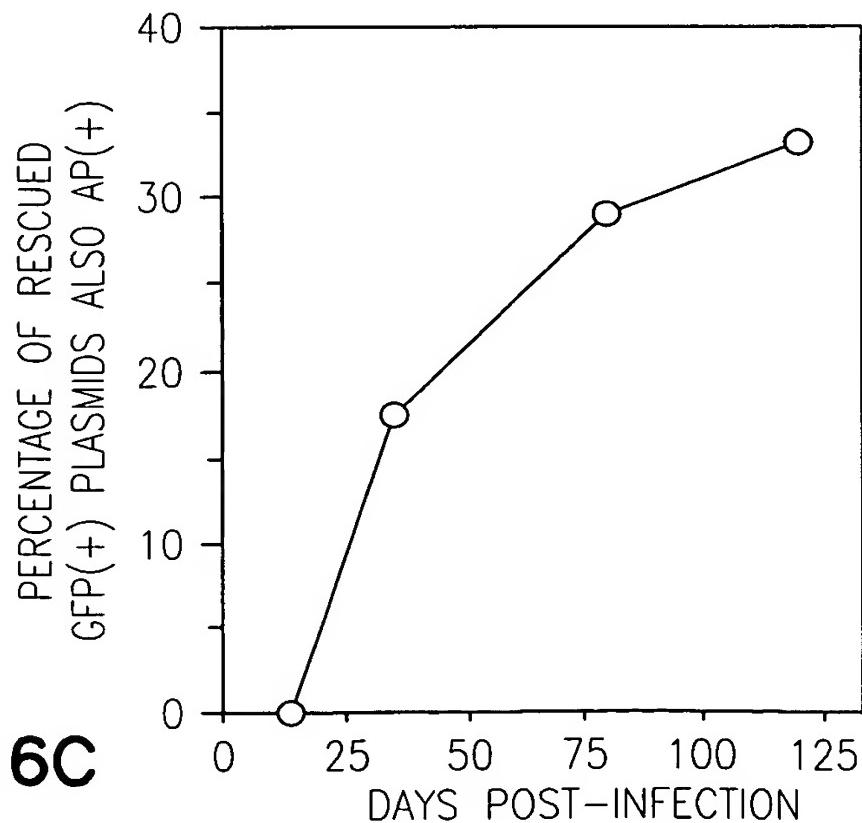
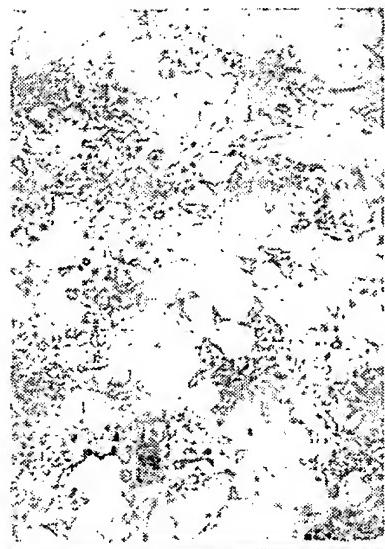


FIG. 16C

Alkphos



GFP



Nomarski

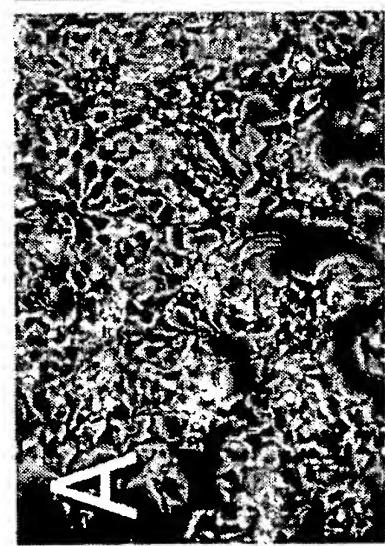


FIG. 17A

FIG. 17B

FIG. 17C

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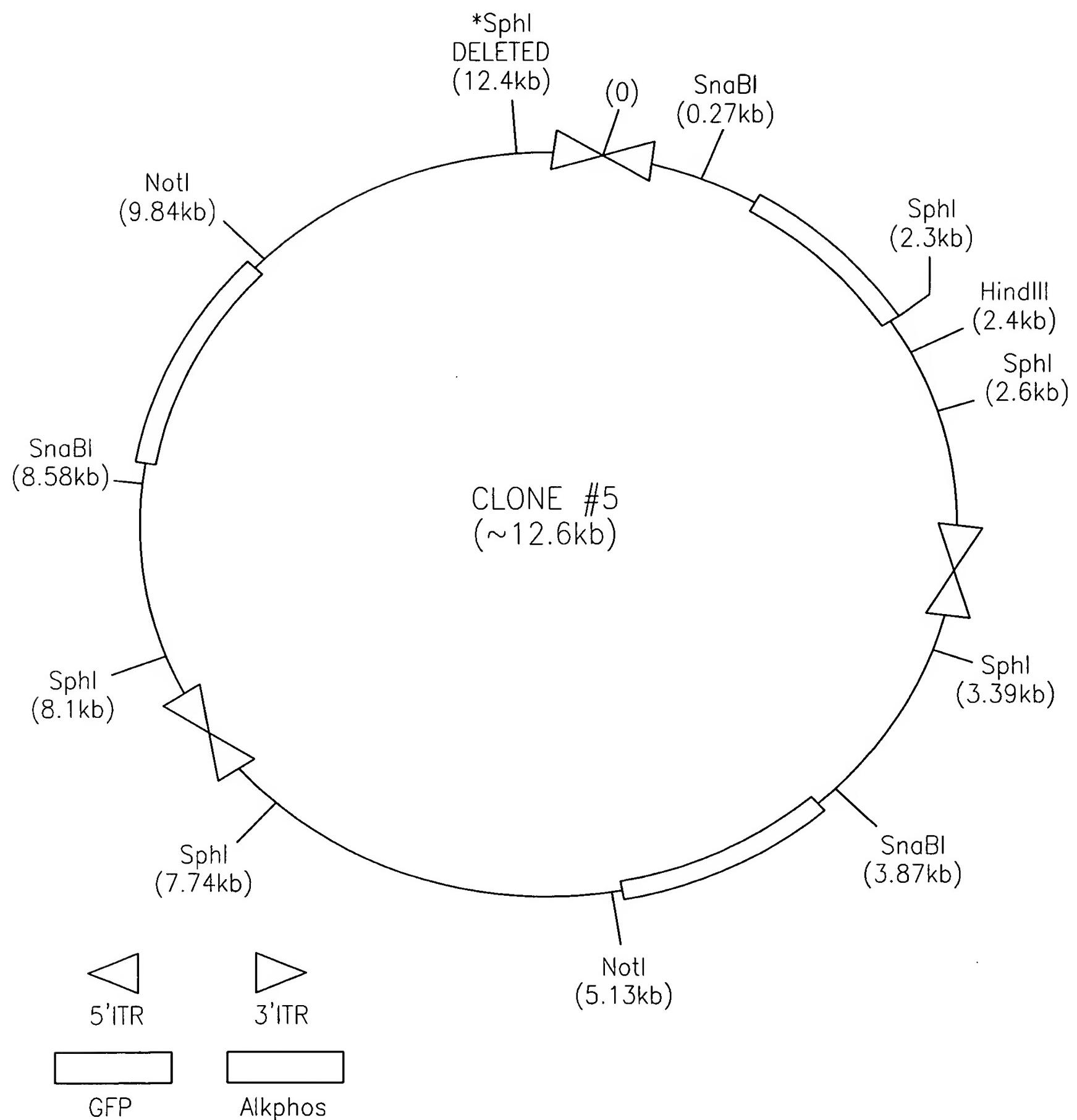


FIG. 18D

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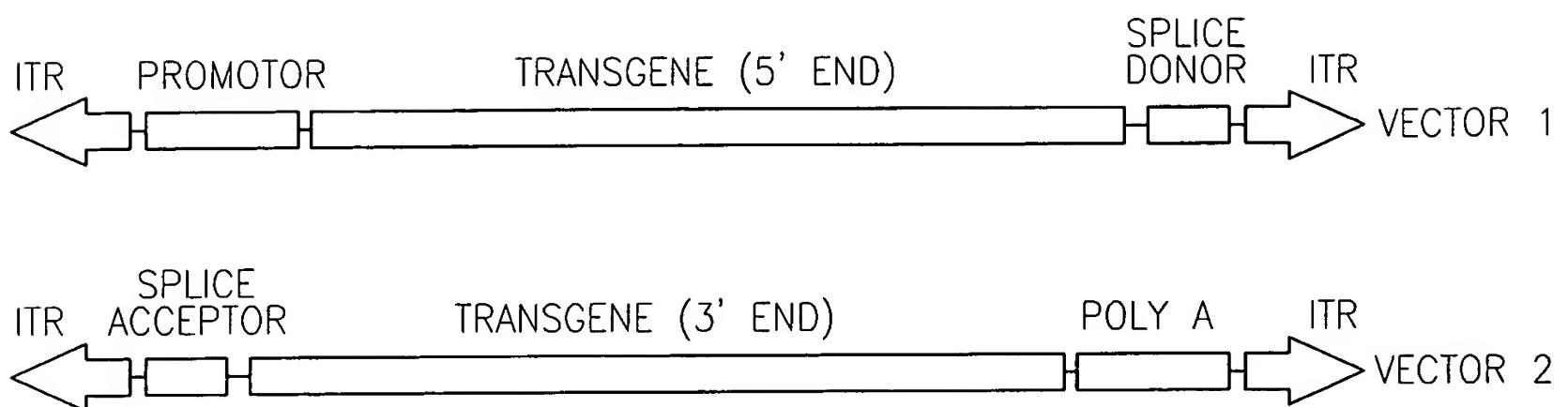


FIG. 19A

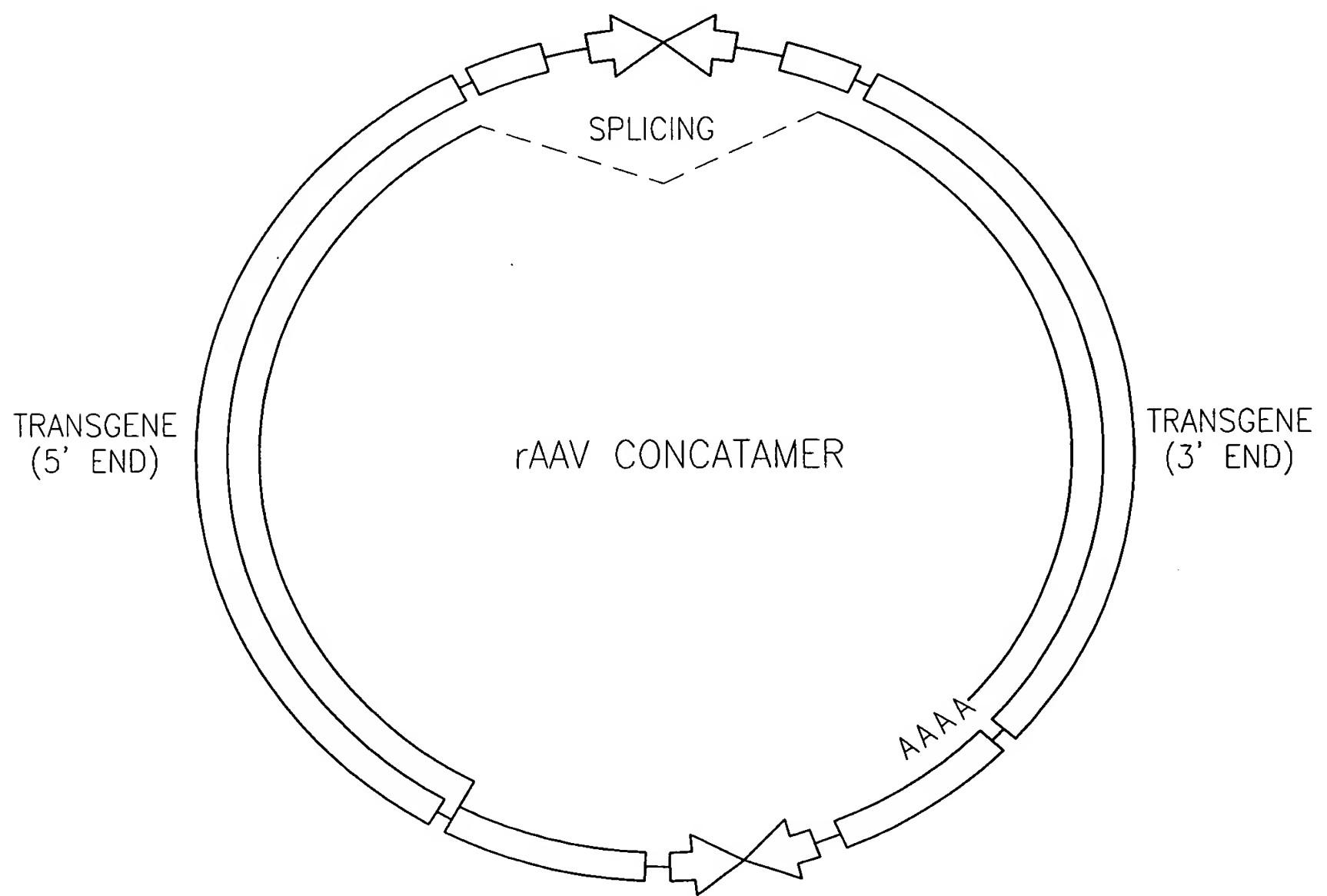


FIG. 19B

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